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The Incorporation of Hispanics into the US Health System Considering the Roles of Nativity, Duration, and Citizenship: A Case of Acculturation?

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The Incorporation of Hispanics into the US Health System Considering the Roles of Nativity, Duration, and Citizenship: A Case of Acculturation?

by

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The Incorporation of Hispanics into the US Health System Considering the Roles of Nativity, Duration, and Citizenship: A Case of Acculturation?

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The purpose of this dissertation is to examine differences in access to and sources of health care for adults and children among major Hispanic sub-populations of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, citizenship and the length of time lived in the United States. Using the National Health Interview Survey from 1999-2001, logistic regression and multinomial logistic regression models are estimated to compare Mexican Americans, Puerto Ricans, Cubans, Other Hispanics and non-Hispanic Blacks with non-Hispanic Whites.

For access to a regular source of care among the adult sample, Mexican American and Other Hispanic adults were *less* likely to report access to a regular source of care in comparison to Non-Hispanic whites. In comparison, Cuban American adults are not significantly different from Non-Hispanic whites in reporting access to a regular source of

care while Puerto Rican adults are *more* likely to report access to a regular source of care. Among the child sample, only Mexican American children are significantly different from the reference, as they are less likely to report access to a regular source of care in comparison to Non-Hispanic whites.

For sources of regular health care in the adult sample, Mexican American, Puerto Rican and Other Hispanic adults were much more likely than Non-Hispanic whites to report the use of a clinic and the emergency room as their source of regular medical care. Similarly, Mexican American and Other Hispanic *children* were both less likely to report a private doctor's office than other types of care in comparison to Non-Hispanic whites.

The acculturation variables of nativity, duration and citizenship contribute greatly to the incorporation of various Hispanic groups into the U.S medical system. Together, the impact of nativity, duration and citizenship explain much of the differentials in access to a regular source of care among Hispanic sub-groups in comparison to Non-Hispanic whites.

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Chapter One
INTRODUCTION

1.1 Research Problem and Objectives

Over the past decade, demographic and public health literature has been marked by an explosion of interest in the relationship between race/ethnicity and health. While initially focused on black/white differentials, scholars are now expanding their scope to study health differentials among other ethnic groups of the United States. Due to increased data availability, the health outcomes of Hispanics and Asian and Pacific Islander (API) populations are now being incorporated into scholarly research, with findings illustrating the wide disparities and variations in infant, child and adult health and mortality among a number of race/ethnic groups of the U.S. (Markides and Coreil 1986; Hummer et al. 1999a; Hummer et al. 1999b; Frisbie et al. 2001).

Our understanding of the relationship between race/ethnicity and health is not only being advanced by a focus beyond black/white differentials; research in recent years has also addressed the influence immigration may play on health outcomes (Hummer et al. 1999a; Hummer et al. 1999b; Cho et al. forthcoming). The research exploring immigration and health has largely evolved out of the epidemiologic paradox, which details the combination of a high-risk sociodemographic profile and favorable health and mortality outcomes. This general health pattern has been found to exist across a large number of immigrant groups (Markides and Coreil 1986; Rumbaut and Weeks 1996; Frisbie et al. 1998; Landale et al. 1999a).

While literature on mortality and health differentials across racial/ethnic subpopulations abounds, demographic research on health care regular *access* to and *sources* of medical care among different segments of the population is not as well developed, especially at the population level (Weinick et al. 2000; LeClere et al. 1994). The inquiry into access to and sources of medical care among Hispanics remains especially limited. This dissertation seeks to fill that gap by examining differences in access to and sources of health care of both adults and children among major Hispanic sub-populations of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, citizenship and the length of time lived in the United States. Understanding access to health care, as well as the particular source of health care, is crucial in gauging the incorporation of various Hispanic groups into the formal medical system of the U.S. Incorporating nativity, duration and citizenship will further allow for the exploration of the immigration processes of different U.S. Hispanic groups within the United States. Differences between Hispanic groups may exist in medical care access and services utilized, differences grounded in particular socio-economic realities and political histories which shaped the unique migration and incorporation experience of each Hispanic group within the United States. These differences affect not only the migration processes but also the incorporation of each Hispanic subgroup within the United States. Consequently, it is crucial to explore Hispanic subgroups individually to assess the varying impact of their different socio-economic and political realities.

1.2 Significance

Researchers are beginning to address the heterogeneity that exists within the Hispanic and API ethnic populations. A case in point, Hummer and his colleagues (1999a) documented the infant mortality differences across the Hispanic subgroups, with Puerto Ricans having a clear disadvantage and Central/South Americans at a clear advantage when compared to non-Hispanic Whites. Mexican Americans and Cuban Americans were found to exhibit mortality patterns similar to non-Hispanic Whites. Their research noted that studies that aggregate Hispanics into a single group mask important diversity that exists within the population.

The burgeoning interest in minority groups and health is due in large part to the changing population composition of the nation. Over 30% of U.S. residents are members of racial and ethnic minority groups (Greico and Cassidy 2001), and it is estimated that by the year 2020, nearly 40% will descend from a minority background. Additionally, the foreign-born population of the U.S. increased by 57% from 1990 to 2000 (Malone et al. 2003); further, the 2000 U.S. Census reports that the foreign-born population currently numbers over 30 million. Hispanic populations accounted for a large portion of this growth (Guzmán and McConnell 2002). As in the previous decade, Hispanics were again one of the most rapidly growing racial/ethnic groups in the United States during the 1990s (Guzmán 2001; De Vita 1996). They grew by almost 58% during this period, and now comprise 12.5% of the total U.S. population. Consequently, Hispanics are now the largest ethnic minority group within the U.S. (www.census.gov). As a result of the changing dynamics of the U.S. population, demographers and other scholars are increasingly

concerned with the health needs, problems, and progress of a growing number of minority and foreign-born populations.

The actions of the United States government have also increased the focus on the health of various race/ethnic groups within the country. The US government recently developed Healthy People 2010, calling for an elimination of the health disparities among different race/ethnic groups of the population (www.health.gov/healthypeople/). The high cost of health care poses a barrier for medical treatment and proper medical attention for many poor and minority populations.

1.3 Research Aims

In this study, 'access to health care' is defined as having a "usual source of health care[1]". 'Sources of health care[2]' further explores the 'usual source of care' respondents report – doctor's office, clinic, emergency room or other. The major Hispanic groups explored are Mexican Americans, Puerto Ricans, Cuban Americans as well as Other Hispanics. Specifically, this research seeks to answer the following questions:

(1) Are there differentials in health care access for Hispanic subgroups in comparison to non-Hispanic whites and blacks?

[1] Respondents are asked "Is there a place you usually go to when you are sick or need advice about your health?" Responses indicating one or more regular sources of care are coded "Yes," while those who report no regular source are coded "No." This is considered by NIH to be *the measure* of health care access

[2] A direct indicator of source of health care is captured by the NHIS, which inquire "If you have a usual source of care, what kind of place is it --- a clinic, a doctor's office, emergency room or some other place?"

(2) Of those respondents that report having access to care, are there differences in the types or sources of care for Hispanic subgroups in comparison to non-Hispanic whites and blacks?

(3) How are immigration measures of nativity, duration of residence in the US and citizenship status related to access to and sources of health care for Hispanic subgroups?

(4) How do demographic precursors and socioeconomic status variables influence racial/ethnic and immigration patterns of health care access and services?

(5) How do patterns of access to health care differ between adult and child populations of Hispanic subgroups as well as in comparison to non-Hispanic whites and blacks?

1.4 Research Design

These aims will be accomplished by using national level, individually-based data from the National Health Interview Survey from 1999-2001. Logistic regression and multinomial logistic regression methods will be utilized. By examining access to and sources of care for specific Hispanic subgroups, this dissertation aims to increase the understanding of the complexity of the Hispanic population within the United States. In addition, this dissertation aims to better understand the influences that nativity, duration and citizenship assert on having access to and sources of medical care within the United States.

1.5 Organization of Dissertation

Chapter 2 provides a review of the various literatures which inform this research. The intersection between migration and health will first be discussed, followed by a more concentrated appraisal of the research on health outcomes of the Hispanic subpopulations of the United States. The access to medical care literature for Hispanices will then be appraised. In addition, demographic and socioeconomic profiles of each major Hispanic group within the United States will be provided. The chapter will end with a demarcation of a conceptual framework, which will guide the present research, and a specification of the study's hypotheses.

Chapter Three presents a review of the methodology that will be used in the research. Data from the 1999-2001 National Health Interview Survey will be utilized. The measures and methods of research will be presented. In addition, the weighted frequency tables of the variables to be utilized in both the adult and child samples will be discussed. Chapters Four through Seven will provide analysis and interpretation. Chapter Four features the analysis of access to care for adults, while Chapter Five will further explore sources or types of medical care. Specifically, it will isolate those adult respondents reporting having access to a regular source of care and probe the relationship between race/ethnicity and source of care (private doctor, clinic, emergency room or other). Chapters Six and Seven will follow the same pattern – access to care and sources of care – for the child sample. A concluding chapter reviews significant findings and provides in-depth discussion. In addition, implications for policy and future research will

be discussed, focused on new insights into the ways into which sociodemographic factors affect access to health care, particularly for the Hispanic population of the United States.

Chapter Two
LITERATURE REVIEW

This chapter will provide a review of the various literatures which inform this research. The intersection between migration and health will first be discussed, followed by a more concentrated assessment of the research on health outcomes of the Hispanic subpopulations of the United States. The access to medical care among the Hispanic populations literatures will then be appraised. Following, a socio-demographic profile of the major Hispanic subgroups within the United States will be provided. The conceptual framework and hypotheses will conclude the chapter.

2.1 Migration and Health

The juncture between migration and health dates back over a hundred years, as the health of incoming immigrants flooding the shores of the United States at the turn of the 20th century was alleged to be one of the nation's most pressing public health concerns (Frank 2000; Evans 1987). Presently, the social aspects of both processes integrate the research on migration and health. The relationship between international migration and health outcomes has largely been explained as the result of larger social and economic processes (Omran 1971; Roberts 1995; Massey and Espinosa 1997; Hummer et al 1998; Frank 2000). Not simply a random individual act of moving, immigration has been conceptualized as linked to social networks and the political economy of the global system. Health outcomes among immigrants are believed to reflect inequalities that exist within the larger society, as well as the forces that influence migration itself.

Yet examining the health of Hispanics and migrants has led to surprising findings. Referred to as the 'epidemiologic paradox' research has repeatedly illustrated the better than expected health outcomes for the Mexican American populations within the United States (Markedies and Corelil 1986). This general pattern has been documented in other Hispanic subpopulations. Teller and Clyburn (1974) first reported the unexpected mortality findings. Studying the Spanish surname population in Texas, they found that the infant mortality rate of the non-Hispanic white population was only modestly lower than the infant mortality rate of the Spanish surname population. Building upon these findings, Forbes and Frisbie (1991) documented a near convergence between Mexican-American and non-Hispanic white infant mortality during the 1935-1984 time period. These patterns were brought to greater attention by Markedies and Corelil (1986:261) who defined the paradox as the fact that "the health of Hispanics is much closer to that of other whites than to the health of blacks, with whom Hispanics share socioeconomic conditions." The "Latino advantage" has been credited to the selective migration of healthy individuals (Weeks and Rumbaut 1991; Hummer et al 1999a). It is theorized that migrants on the whole may be significantly healthier than the sending populations (Palloni and Morenoff 2001).

Due to the changing racial/ethnic profile of the United States, more studies are continuing to explore a variety of mortality and health outcomes of populations within the United States, embracing other minority groups in their studies of health outcomes and race/ethnic differences. Sorlie et al. (1993) drew attention to the differences among Hispanic subgroups in adult mortality risks, documenting that Puerto Rican men have the

highest risk of mortality. Other studies focused on age-specific differences, and illustrated relatively high Hispanic mortality at younger adult ages in comparison to whites and relatively low mortality at older adult ages (Elo and Preston 1997; Liao et al. 1998). Most recently, Hummer et al. (1999a) reported continued differentials across Hispanic subpopulations, with Puerto Ricans again holding the highest levels of mortality and Central/South Americans the lowest. Hispanic immigrants were also characterized by lower levels of adult mortality than their native-born counterparts (also see Rogers et al. 2000).

2.2 Access to Health Care

The large-scale analysis of access to health care initially emerged as a way to probe the equality of the American health system (Aday and Anderson 1984). "Access to care" has been conceptualized in a variety of ways. Access to care has been identified as the utilization of health services (Richardson 1971; McKinlay 1972; Andersen and Newman 1973), as well as the availability of a usual source of medical care to an individual. In addition, access to care has also at times included an individual's access to specific medical services, such as Pap Smears, HIV/AIDS treatment and specialized surgeries, as well as the sources of care utilized such as the Emergency Room. The following discussion of the previous research on access to care incorporates all conceptualizations of 'access to and source of care'; later, I will detail how I measure access to and sources of care within this research.

Access to health care first gained prominence as a concept within the sociology of medicine literature with the works of Ronald Andersen beginning in the late 1960s. Initially developed to understand why families do or do not use health services, the access to care model also probed equity within health care. The model assisted in developing policies to promote equitable access to medical care (Andersen 1968). The access to care model established a behavioral model, proposing that the use of health services is a function of not only an individual's predisposition to use services, but also factors which enable or impede the use of health care (Andersen 1995).

Predisposing characteristics that influence the use of health services included demographic factors, social structure influences and health beliefs. For Andersen, demographic factors include sex and age, while social structure factors illuminate the broad array of factors that determine the status of a person within a community and are meant to gage social inequalities. Social structure variables include education, occupation and race/ethnicity. Health beliefs refer to those attitudes that facilitate the use of health services. These beliefs refer to the values and knowledge that people have about health and health services that might influence their awareness of the need and the use of health services (Andersen 1968; 1995). In addition, Andersen's initial model also factored in enabling resources, such as family and community, as well as the need for health services that would facilitate the use of health services.

A number of initial studies on access to medical care were grounded in the differences existing between the white and black populations of the United States and research documented the wide black/white gap that existed within the US (for a review,

see Lillie-Blanton et al. 1996). As the racial/ethnic population of the United States has diversified, more attention has been given to the health concerns of other race/ethnic groups. In particular, recent research has focused on the access to and utilization of health care by Hispanics.

Health Care Access and Sources among Hispanic Adults

Since the mid-1950s, researchers have addressed health care among the Hispanic populations of the United States. Drawing on the work of Weaver (1976), Andersen et al (1981) describes three distinct eras in regards to the methodology involved. Characterized by participant observation, scholars within the first wave of research employed an anthropological approach utilizing case studies of particular communities to probe the use of health care by Hispanics. These initial studies emphasized ethnic dynamics and cultural practices as central to the understanding of the health attitudes and behaviors of Hispanic persons (Saunders 1954). The second era of research is characterized by continued use of case studies of low-income "barrios", relying on small, non-representative samples (Clark 1959; Madsen 1964; Rubel 1966). Large datasets, scientifically representative of the chosen population, became a mainstay in the third era of research and are used to account for health care attitudes and behavior within the Hispanic population. The use of large, population-base data sets allowed epidemiological and sociological studies to begin to take into account variables such as income, education, occupation, family composition and mobility in Hispanics' access to care for large segments of the population.

Over all three waves of research, the relative lack of access to health care emerged as a prominent finding. No matter the defined Hispanic group, all research proposed explanations for the relatively lower rates of access to formal medical care among Hispanic populations. These explanations for lack of access to medical care can be classified into larger categories: cultural, community-based and socioeconomic (Andersen et al 1981).

The cultural explanations posit that the relative lack of formal care by Hispanic populations is based on cultural practices and beliefs that are linked to their immigrant background. The reliance on *curanderos* or folk healers and religious teas was documented both within Texas and California rural communities of Mexican immigrants (Clark 1959; Madsen 1964; Rubel 1966). The use of curanderos and religious medicines has been understood as not only a cultural practice that links the immigrants back to their native countries, but also as a practical, affordable way to seek medical attention. By relying on traditional medical practices, Mexican Americans and other Hispanic groups may delay or even refuse formal medical care. However, other researchers (Welch et al 1973) refuted this reliance on folk medicine as an explanation for lack of formal utilization of health care among Hispanic groups. More accurately, this group resembled other low income populations in their use of medical care. It is argued that Hispanic populations are not different in their access to and utilization of health care due to ethnic or cultural orientation, but rather they are simply more likely to be poor. It is their poverty that decreases their access to the formal medical system.

The use of curanderos is not the only cultural explanation for the lower access and use of medical care among Hispanics. The extended kin networks of Mexican Americans have also been proposed as an explanation for the low utilization rate of health care among Mexican Americans (Nall and Speilberg 1967; Welch et al 1973). Family integration has been negatively related to obtaining medical care when ill (Hoppe and Heller 1975). Conversely, other research has observed a positive link between strong kin links and the use of medical care. For example, family ties may assist childcare and necessary transportation (Hoppe and Heller 1975; Quesada et al. 1978).

More recently, socioeconomic aspects have been explored and examined in relation to Hispanics' low access to, and utilization of, formal health care. Using data collected by the National Opinion Research Center from 1975-1976 (Andersen et al. 1981), researchers examined the Hispanic population of the Southwestern United States (overwhelmingly of Mexican origin) to explore their access to medical care. They found that Hispanics had lower levels of access to medical care than the population as a whole. Hispanics were less likely to have health insurance and slightly less likely to see a doctor, have preventative examinations, or see a dentist. While this study was one of the first to explore Hispanics using a population-based representative data set, it is limited in that Hispanic ethnicity does not take into account the effects of country of origin, nativity and duration.

The role of nativity and its affect on access to care is explored by Alston and Aguirre (1987). Using data from the 1976 Survey of Income and Education, the researchers explored nativity differences in the access to various types of medical sources

among elderly Mexican Americans. They document that the foreign-born Mexican elderly are highly dependent on Medicare. While the limited sample sizes of elderly Mexican Americans, both native and foreign born, presented problems with reliability, Alston and Aguirre's research is notable for highlighting the importance of nativity.

Solis et al (1990) used data from the 1982-1984 Hispanic Health and Nutrition Examination Survey, or HHANES, to explore the use of preventive health services among Mexican American, Cuban American and Puerto Rican adults. Results indicated that a customary place for health care, health insurance coverage, and a regular provider increased the likelihood of physical, eye and dental exams, as well as Pap smears and breast examinations, for all Hispanic groups. Documenting the differences among Hispanic groups, their research found that Mexican Americans used preventative-service facilities less recently than the other two Hispanic groups, with the exception of female examinations. The authors argued that this disparity could be partially explained by the high rate of uninsured persons within the Mexican American population. The role of acculturation, as measured by language, was also probed and it was found to play a role in health services utilization for all Mexican Americans, and Cuban men. Preferring to speak English was associated with a more recent utilization of services for these groups. In contrast, English language acquisition did not affect the utilization of health services for Cuban women or Puerto Ricans.

In a related study, Trevino et al (1991) used the March 1989 Current Population Survey as well as the HHANES to derive estimates of insurance coverage and use of medical services among various Hispanic groups. Documenting the importance of

country of origin in rates of the uninsured, the study reported that while 16% of Puerto Ricans and 20% of Cuban Americans were uninsured for medical expenses, and over 37% of Mexican Americans did not have insurance. Analyzing Hispanics as a single group, the research also found that insurance coverage increases the likelihood of Hispanics having a regular source of care and the odds of seeing a physician. One-third of uninsured Puerto Ricans and almost 40% of Mexican Americans and Cuban Americans reported that they had not seen a physician within the past year. Both the Solis et al (1990) and the Trevino et al (1991) studies emphasize the heterogeneity among Hispanic subgroups of the United States. However, each is limited in their contributions, as they do not probe the importance of nativity, duration and citizenship; in addition, they do not analyze socioeconomic factors in a multivariate framework.

Exploring the role of immigration status on access to care among Latinos in Orange Country, California, Hubbell et al (1991) discovered that all Latinos had less access to medical care than non-Hispanic whites. Sampled Latinos also more often lacked a regular provider of care and more Latinos had not visited a physician in the previous year regardless of legal status. Immigrant status was seen playing a larger role, however, as undocumented Latinos were less likely than Latino citizens to have health insurance. However, legal status did not affect access to care, as access to medical care did not significantly differ between the two Latino groups. In another important work that not only accounted for ethnicity but also effects of immigration status, LeClere and colleagues illustrated that recent immigrants are much less likely than the native-born or those immigrants of longer duration to use health care initially and also to have fewer

total contacts by a physician (Leclere et al 1994). They find that duration of residence of immigrants has a large effect on the utilization of health care services. Recent immigrants have significantly fewer contacts with physicians than those immigrants who have been in the United States for a longer period of time. While LeClere et al. take into account Hispanic origin, they do not separately explore the utilization of health care for each group.

Two related articles, Zuvekas and Weinick (1999) and Weinick et al (2000), focused on Hispanic Americans' access to care over the last 20 years using data from the 1977 and 1987 National Medical Care Expenditure Survey as well as the 1996 Medical Expenditure Panel Survey. Both articles documented that while Whites and African Americans did not experience significant changes in the probability of having a usual source of care from 1977 to 1996, the proportion of Hispanic Americans lacking a usual source of health care rose substantially over this period, from 19.7% to 29.6%. The decrease in health insurance coverage among Hispanics is credited for this increase in lack of health care. Nevertheless, both articles state that eliminating insurance disparities would not wipe out the inequalities in health care access. They theorize that geographic distribution of health care providers, lack of trust of health care providers by race/ethnic minorities, and cultural difficulties (such as language) between ethnic minorities and the health care system are to blame. While making great contributions to our understanding of the growing importance of studying access to care for Hispanics, this research is limited by the grouping of all Hispanics into a single population and the lack of attention to nativity, duration and citizenship.

Phillips et al (2000) report that Hispanics were more likely to report obstacles within managed care than non-Hispanic whites. The lack of insurance was consistently associated with barriers to health care. Among Hispanics, 68% of families with care barriers within managed health programs lacked insurance and Hispanics families were 1.3 times more likely than non-Hispanic white families to report barriers to care. Hargraves et al (2001) also examined health care plans, exploring if access differences between racial/ethnic minorities and whites in managed care plans are greater than such differences in other types of health plans. Using data from the nationally representative 1996-97 Community Tracking Study (CTS) household survey, the researchers noted that fewer than 74% of Hispanics had a regular provider compared to more than 78% of Non-Hispanic whites. In addition, Hispanics were the least likely to have had their last doctor visit with a specialist. Hargraves and colleagues concluded that although there exists greater access to care for Hispanics within managed care plans, disparities continue to exist between Hispanics and whites that mirrors disparities in other health plans. Again, both studies were not able to take nativity and citizenship into account in examining access to medical care.

Corbie-Smith et al (2002) very recently examined usual source of care among adults of different racial and ethnic groups. Using data from the Household Component of the 1996 Medical Expenditure Panel Survey, the authors found many disparities between Hispanics and non-Hispanic whites. Hispanics were less likely to receive breast exams and blood pressure and cholesterol screening than were non-Hispanic white respondents. Having a usual source of care was associated with each of these services, but controlling

for a usual source of care did not eliminate differences between Hispanics and non-Hispanic whites. The study is limited in that it is unable to investigate differences in access to care for a variety of Hispanic sub-groups and does not take into account nativity.

In probing type of care utilized by Hispanics in comparison to non-Hispanic whites, Guendelman and Wagner (2000) compared use of any care, emergency services, inpatient hospitalization, nonemergency outpatient care and preventive care. Using data from the 1994 Commonwealth Fund Survey of Minority Health, Hispanics were found less likely than non-Hispanic whites to have visited a doctor in the last year, to have been admitted to a hospital or to have used preventative care. Guendelman and Wagner argue that access to a regular source of care as well as socioeconomic factors help explain the gap between Hispanics and non-Hispanic whites. This study is limited, however, by grouping all Hispanics into a single category as well as not taking into account issues of immigration.

Weinick et al. (2004) also explores different types of medical care for the Hispanic population. Using data from the 1997 Medical Expenditure Panel Survey, their research uses multivariate models to compare Hispanic groups and the use of various healthcare sources. They find that in comparison to non-Hispanic whites, Mexicans and Cubans are less likely and Puerto Ricans more likely to have emergency department visits. In addition, Mexicans, Central American/Caribbeans and South Americans are less likely to have any prescription medications. More recent immigrants are less likely to have any ambulatory care or emergency department visits, whereas all foreign born Hispanics are less likely to have any prescription medications. While an important contribution to the

literature by exploring the heterogeneity of the Hispanic population as well as duration issues and investigating various health services, it is limited by not exploring the role of citizenship.

In sum, the literature on access to and sources of health care among Hispanic adults finds that Hispanics are less likely to receive care than non-Hispanic whites and are less likely to have health insurance. While a few exceptions exist, the literature is consistently limited by the lack of incorporation of specific Hispanic ethnicity, nativity, duration and citizenship. The literature does not explore how the heterogeneity of the Hispanic population and migration processes (nativity, duration and citizenship statuses) may affect access to and sources of medical care. The health care literature also does not often further delve into differences in care between Hispanic groups. In addition, the literature is marked by a lack of multivariate analysis using population-based data sets. The next section will explore the access to and sources of health care literature among Hispanic children.

Health Care Access and Sources among Hispanic Children

Much work of late has also explored access to medical care for Hispanic children. Using data from the 1988 National Health Interview Survey, Lieu et al (1993) found that 28% of Hispanic adolescents were uninsured as compared to 11% of white adolescents. In addition, Hispanics made conspicuously fewer doctors visits in the last year. Hispanics were more likely to lack a usual source of routine and acute care as well as continuity of

care. Even after adjusting for health insurance, family income, need and other factors, disparities continued to exist between Hispanics and Non-Hispanic whites.

Relying on Medical Expenditure Panel Survey data from 1996, Weinick et al (1998) descriptively showed that Hispanic children are far more likely than children of all other racial and ethnic groups are to be uninsured and to lack a usual source of care. In a related article, Weinick and Krauss (2000) found that Hispanic children were substantially less likely than white children to have a usual source of care even after controlling for health insurance and socioeconomic status. However, the controlling of English language ability eliminated differences between Hispanic and White children. However, none of the above studies were able to take into account the diversity that may exist between different Hispanic sub-groups nor the roles that nativity, duration and citizenship may play for access to care.

Using data collected through a survey of a representative sample of Latino children and families in two inner-city areas of Los Angeles, Halfon et al (1997) explored the effect of immigrant parents' residency status on their children's Medicaid coverage. The research found that the residency status of immigrant parents in Los Angeles does not seem to affect whether Medicaid covers their children. Children of immigrants who were US residents were no more likely to have continuous Medicaid coverage than children of non-residents. By exploring the importance of nativity status, this study attempts to probe the affects of immigration on Hispanic groups.

Flores et al (1999) also explored the link between Hispanic ethnicity and disparities in children's use of health services. Using the 1989-1991 National Health

Interview Surveys, the researchers noted differences in annual number of physician visits among racial/ethnic groups. They documented that the average number of annual physician visits was highest (3.9) for Puerto Rican children, surpassing that of whites, at 3.4 visits. Children of Mexican descent had the one of the lowest mean numbers of physician visits (2.4). In addition, their research notes that at least one visit to a physician occurred over the last year among 74%, 78% and 87% of the Mexican, Cuban and Puerto Rican children, respectively. Using multivariate analysis, the researchers noted that Mexican ethnicity is a significant predictor of fewer physician visits in comparison to white children, while Cuban ethnicity is not. Puerto Rican ethnicity is significantly associated with substantially greater number of physician visits. The strength of this study is that it explores the heterogeneity of the Hispanic sub-groups in relation to children's access to care. However, it is restricted by its lack of attention to nativity and citizenship.

Relying on data of the 1997 National Health Interview Survey, Guendelman and colleagues (2001) explored how immigrant children fare in obtaining basic care. Among all insured children, the foreign-born were less likely than the U.S. born to have a regular source or to have visited a doctor in the previous year. Foreign-born children, regardless of health, were also less likely to have had more than four doctor visits than U.S. born children. Their research also found that foreign-born Latino children were more likely than U.S.-born Latinos to lack a regular source of care. In addition, foreign-born Latino children were also less likely to have sought care in a doctor's office or to have visited a doctor in the previous year. The tremendous asset of this study is the probing of nativity

issues and how they affect access to care. Unfortunately, categorizing all Latinos together masks the heterogeneity of Hispanic groups.

In the most recent study exploring health care access among Hispanic children, Scott and Ni (2004) presented national estimates on access to care for a variety of Hispanic subgroups. Access to care in this study was measured in three distinct ways: health insurance status, having a usual place to go for health care and experiencing unmet medical needs due to cost. The study found that all Hispanic groups were at a greater risk of a lack of health care access compared with non-Hispanic white children. They also found disparities between Hispanic subgroups, with Mexican children most likely to lack health insurance and the least likely to have a usual place of health care. This study greatly increases our knowledge of health care access among a variety of Hispanic subgroups. However, it is restricted by its lack of attention to nativity and citizenship, as well as lack of incorporation of socioeconomic factors in a multivariate framework.

In sum, the literature on access to and sources of health care among Hispanic children finds that Hispanics are less likely to receive care than non-Hispanic whites and are less likely to have health insurance. While a few exceptions exist, the literature is consistently limited by the lack of incorporation of specific Hispanic ethnicity, nativity, duration and citizenship. Like the literature exploring access to and sources of care among Hispanic adults, the children's literature generally does not explore how the heterogeneity of the Hispanic population and various immigration status processes (nativity, duration and citizenship) may affect access to and sources of medical care.

2.3 Hispanic Subgroups of the United States and Migration Patterns

This study proposes to explore access to health care among different Hispanic sub-groups within the United States. The terms 'Hispanic' and 'Latino' refers to all people originating from the Spanish-speaking countries of Latin American and from Spain. Generally speaking, almost 66% of all Hispanics are aged 35 or younger. Just 53% of Hispanics aged 25 or older have a high school education and only 9% have a bachelor's degree or education above that level. More than 91% of all Hispanics reside in urban areas and nearly 30% of Hispanic households live below the poverty line (USPHS, 1996).

While general descriptives like those above can provide a broad picture of the Hispanic population, the umbrella terms Hispanic or Latino mask the great diversity that exists within the population. Alternatively, subcategories based primarily on national origin, such as Mexican American, Puerto Rican, Cuban and Central American, have been increasingly utilized to provide a more refined level of categorization. Persons of Mexican, Puerto Rican and Cuban descent make up 75% of the Hispanic population within the U.S., with the remaining 25% being individuals of Central American, South American, Dominican and Spanish ancestry (Ramirez 1999). See Table 2.1 for a population breakdown of Hispanic subgroups within the U.S.

Early research on Hispanic ethnic groups clustered all Hispanic groups together, not acknowledging the important differences among these ethnic groups. More recent research, however, has taken the different sub-groups into account (Hummer et al, 1999). My research will examine Hispanics as ethnic sub-groups because of their different socio-economic and political realities. Hispanics who legally migrate to the mainland U.S. can

be classified as: (1) citizens – as in the case of Puerto Ricans; (2) refugees; (3) persons who came as primarily temporary labor migrants and originally entered the country with no documents; and (4) all other legal migrants. These different types of immigrants come from largely different countries or origin, have different reasons for entering the U.S., and have different incorporation experiences after they arrive. See Figure 2.2 for nativity and citizenship status of each Hispanic subgroup.

All of these characteristics also affect the incorporation of Hispanics into the U.S. health care system. Differences between Hispanic groups may exist in access to care, differences grounded in particular socio-economic realities and political histories which shaped the migration and incorporation of each Hispanic group within the United States.

In this manner, it is possible to distinguish, for example, between the access to care issues likely to be faced by Puerto Rican individuals covered by US entitlement programs and those encountered by Central Americans, many of whom were fleeing a war-torn countryside, and who, because of these circumstances, might be undocumented or are refugees. Understanding access to care is crucial in gauging the incorporation of various Hispanic groups within the formal medical system of the US. In an editorial on Jan 9, 1991 JAMA, Novello et al. (1991: 265) writes:

> Too often, the term "Hispanic" is used simplistically, referring broadly to all populations with ancestral ties to Spain, Latin America, or the Spanish-speaking Caribbean. Such uncritical ethnic labeling can and may obscure the diversity of social histories and cultural identities that characterize these populations and, in turn, can influence health behaviors, the way care is accessed, and ultimately, health outcomes.

In addition, access to health care serves as a barometer, evaluating the incorporation of Hispanic subgroups into the U.S. social system. Having a regular source of care may serve as an indicator of the inclusion of Hispanic subgroups, and the incorporation of immigrant groups, within mainstream society.

Table 2.1: Demographic and Socioeconomic Profiles of Hispanics Within the United States

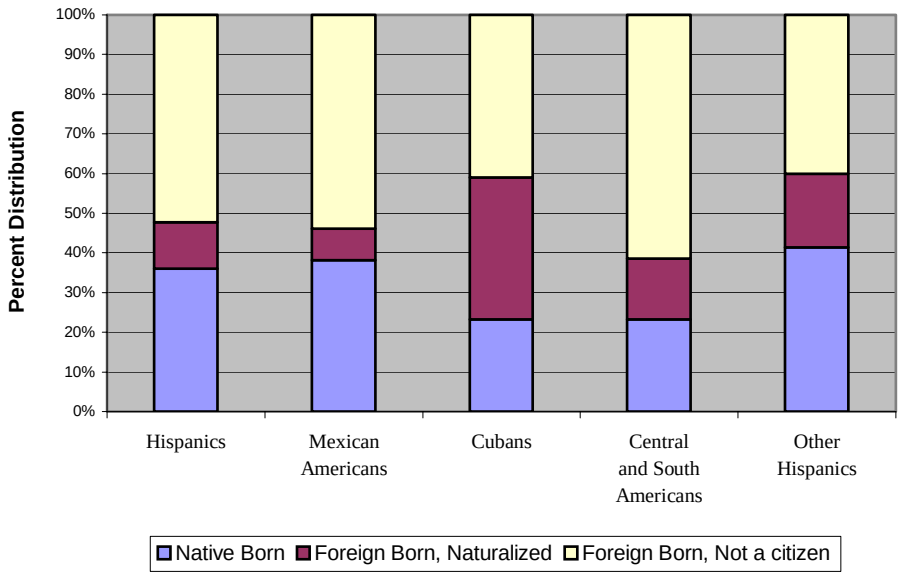
	Mexican Americans	Puerto Ricans	Cubans
Population			
Total Persons	20,640,711	3,406,178	1,241,685
Percent of Total Population	7.3	1.2	0.4
Percent of Total Hispanic Population	66.1	9.0	4.0
Education Attainment			
Percent high school graduate or higher	48.3	63.9	67.8
Percent bachelor's degree or higher	7.5	12.0	22.2
Family Incomes			
Median income	$27,088	$23,729	$37,537
Poverty			
Poverty rate for families	25.8	31.6	15.7
Poverty rate for persons	27.8	34.0	19.7

Source: U.S.Census Bureau 2000 and Current Population Survey: March 1999

As such, it is imperative to provide background information on each group, on their migration history to the United States and their economic and social inclusion within the U.S. Migration histories affect every major aspect of each Hispanic group's individual experience -- from their social origins to their pattern of adaptation. The following discussion will provide an overview of the migration history of each specific Hispanic

subgroup included in this study – persons of Mexican, Cuban, and Puerto Rican ancestry[3]. In addition, demographic and socioeconomic status profiles will be provided for each of these groups.

Figure 2.2 Nativity and Citizenship for Selected Hispanic Groups: 1996



Mexicans Americans

Migration History. Having a long history of immigration to the United States, Mexican Americans are the single largest Hispanic group within the United States. Mexican immigration is thought to be grounded in economics. "Pushed" from their own country due to lack of economic opportunities, Mexicans migrants are "pulled" to the United

[3] As will be discussed in greater detail in Chapter Three, only these three Hispanic subgroups are used due to data limitations. Analyses will be run using these three groups, as well as an Other Hispanic group. Due to the heterogeneity of this category – including Dominicans, Central Americans and South Americans, and individuals whose origins are from Spain – such migration histories cannot be discussed.

States for increased returns on their labor (Portes and Bach 1985; Massey et al. 1987). Mexican labor migration to the United States has a long history, existing over the last century. Until the beginning of the 20th century, this migration flow from Mexico to the U.S. operated outside of government controls (Portes and Bach 1985). Mexicans initially migrated northwards in search of temporary employment in agriculture. The construction of national railroads in Mexico increased migration, as it facilitated greater accessibility to the United States among workers in southern Mexico. In addition, incessant political instability also stimulated migration (Grebler et al 1970).

Temporary international migration between Mexico and the United States became institutionalized, however, with the Bracero Accords (1942-1964), which formalized the labor trade between the two countries. The entry of the US into WWII resulted in a massive labor shortage, as the majority of eligible young men were enrolled in the military. The Bracero Program spurred the recruitment of Mexican labor, formalizing the movement of Mexicans across the border. Low-wage labor for southwestern agriculture was persistently provided by the accord long after the end of the war and the return of American workers. By the end of the program, some 4.5 million Mexicans had worked as braceros – 'arms' in Spanish – in the US (Cornelius 1978).

While mass Mexican immigration has its root in direct labor recruitment, the directionality of Mexican migration has been marked by its cyclical nature (Portes and Bach 1986; Massey et al 1987). At the individual level, Mexican immigration has been characterized by continual return, in which periods of work within the U.S. persistently rotate with episodes of residence in Mexico (Portes and Bach 1986). This cyclical feature

was noted in the 1911 Report on Immigration which addressed the Mexican immigrants, the detrimental aspects of permanent settlement, and the advantages of temporary labor immigration. The recurring movement of Mexican individuals over time has been sustained by a general disinterest in settlement on both sides. It has been argued that in general neither the U.S. government and employers, nor the Mexican migrant, have generally been interested in permanent settlement in the United States (Portes and Bach 1985; Bean and Tienda 1987; Massey et al 1987).

For those Mexican immigrants that do establish permanent residence in the United States, their association to the United States remains poorly understood. It has been documented that Mexican immigrants are much less likely to become naturalized citizens of the United States in comparison to other Hispanic groups (Bean and Tienda 1987). The Immigration and Naturalization Service reported lower naturalization rates for Mexicans than either Cubans or Central and South Americans. The reasons behind their lower rates of naturalization are not all together obvious. This pattern may result from the historically driven cyclical pattern of Mexican labor migration, Mexico's geographic proximity to the United States, and the continued openness of the U.S.-Mexico border.

Demographic and Socioeconomic Profile. There are currently over 20 million Mexican Americans within the United States (see Table 2.1). Hispanics of Mexican origin are more likely to live in the West and South, with 56.8 and 32.6 percent living in these areas respectively (Therrien and Ramirez 2000). Among all Hispanic groups, Mexican Americans have the highest percentage (38.4%) of their population under the age of 18 while just 4.5% of their population is over the age of 65. In regards to nativity and

citizenship, only 38.1% of all Mexican Americans are U.S.-born and of those that are foreign-born, only 12.7% have become naturalized (see Figure 2.1). Mexicans have the lowest naturalization rate among all Hispanic groups (Current Population Survey 1999).

Mexican Americans have the lowest rate of high school graduation among all Hispanic subgroups, with only 48.3% having a high school degree. Further, just 7.5% of all Mexican Americans have a bachelor's degree or higher. The median income of Mexican Americans is just over $27,000 with a 25.8 percent poverty rate for all Mexican American families (Current Population Survey 1999). In addition, 35.4% of all Mexican American children fall under the poverty line, in comparison to 10.6% of Non-Hispanic white children (Ramirez 1999).

Puerto Ricans

Migration History. To understand the Puerto Rican migration experience, it is critical to understand the relationship between the United States and Puerto Rico. Following the Spanish-American War, the island of Puerto Rico became a U.S. Territory in 1889, it's status being transferred to commonwealth in 1952 (Bean and Tienda 1987). With the passage of the Jones Act in 1917, Puerto Ricans became U.S. citizens. However, Puerto Ricans do not pay U.S. income taxes and do not fully participate in federal government social service programs. As U.S. citizens, Puerto Ricans are also free to travel to, and move within, the mainland of the United States (Bean and Tienda 1987).

Scholars often have attributed Puerto Rican migration to the United States – or to the mainland as it is called – as largely based on the economic policies of the both Untied

States and the island government (Baerga and Thompson 1990; Ortiz 1996). Both have encouraged industrialization and capitalist investment which have resulted in the displacement of rural agricultural workers. The development policies have resulted in making Puerto Rico a source of cheap labor, much like Mexico (Baerga and Thompson 1990; Ortiz 1996). Puerto Rican and Mexican migration are also similar in their cyclical nature (Bean and Tienda 1987). The circular movement is a central feature of Puerto Rican migration, as they easily move from Puerto Rico to the mainland and back. (Technically speaking, as citizens, Puerto Ricans do not immigrate, but as American citizens, they migrate.) Like Mexican migrants, cyclical migration shapes the social and demographic lives of the Puerto Rican people.

The citizenship status of the Puerto Rican ethnic group is significant, as it lays the basis for understanding their connection to the U.S. social system. Puerto Ricans obviously live in Puerto Rico and on the 'mainland' U.S., but residents both on the island and the mainland are citizens of the United States[4]. Due to their citizenship status, they are afforded automatic ties to the U. S. State social services system that other Hispanic groups do not necessarily have.

Demographic and Socioeconomic Profile. There are currently over 3.4 million Puerto Ricans on the United States mainland (see Table 2.1). Puerto Ricans largely live in the Northeast, as 63.9% of all Puerto Ricans settle there (Therrien and Ramirez 2000). Among all Hispanic groups, Puerto Ricans are the most likely to live in a central city within a metropolitan area (61.2%). In regards to nativity and citizenship, virtually all

[4] My dissertation research will only focus on Puerto Ricans within the United States mainland. More information on this will be discussed in Chapter 3.

Puerto Ricans are citizens of the United States. Of the Puerto Ricans that live on the mainland, 56.8% were born on the mainland while 39.1% were born in Puerto Rico (Therrien and Ramirez 2000).

Nearly two-thirds of all Puerto Rican adults have earned a high school degree (Therrien and Ramirez 2000). The median income of Puerto Ricans is $23,000, with a 31.6 percent poverty rate for all Puerto Rican families (Current Population Survey 1999). It should be noted that this is the highest poverty rate of all Hispanic subgroups. Further, 43.5% of all Puerto Rican children fall under the poverty line, by far the highest percentage of all Hispanic subgroups (Ramirez 1999).

Cuban Americans

Migration History. Cuban immigration to the Untied States has occurred relatively recently. This migratory flow is not founded in labor recruitment, like Mexican immigration, but rather in a major revolutionary upheaval in Cuba. As a result, a tremendous number of Cubans departed their home nation during the span of a single government. The Cuban Revolution brought Fidel Castro to power in 1959, brought about a communist political system and facilitated the mass exodus of hundreds of thousands of Cubans (Portes and Bach 1985; Bean and Tienda 1987). Between 1959 and 1980, more than 800,000 Cubans, or about one-tenth of the island population, left. About 85% went to live in the United States (Portes and Bach 1985).

Cuban migration is marked by distinct eras or waves (Pedraza 1996). The numerous waves of Cuban migration conveyed very different sets of social resources and

capital – such as their social class, race and education. In addition, over a span of over 30 years of receiving Cuban migration, the United States social context has altered. Depending on their time of entry, Cuban migrants have been greeted by a varying social-political context, such as alternating economic opportunities and government policy programs. Consequently, Cuban immigrants from the various waves have experienced rather dissimilar processes of integration into American society. As a result, Cubans are often grouped into five waves of migration.

> The First Wave: 1959-1965. The overthrow of dictator Bastita produced an economic and diplomatic war between Cuba and the United States. The upper and upper-middle classes, such as landowners, industrialists and managers of US projects, greatly benefited from the political and economic structures provided by Bastista's government. In this first wave, these elite were the first to leave Cuba. These immigrants received the status of "parolees" – exiles from a communist government – and immigration quotas were waived. Approximately 300,000 Cubans immigrated during this initial period (Pedraza-Baily 1986; Bean and Tienda 1987).
>
> The Second Wave: 1965-1973. A "Memorandum of Understanding" was established during this period, resulting in two daily flights between Cuba and the United States. Refugees would be flown from communist Cuba to the U.S. Unlike the first wave, this era of émigrés comprised increasing numbers of lower middle and urban working class individuals. Studies documented the lower socioeconomic status of these newer exiles. However, these immigrants still had higher educational and occupational profiles than the average Cuban. In addition, the ratio of black and mulatto immigrants continued to be much lower than the island's population. This "air bridge", as it is referred to, brought in more than 340,000 new refugees to the United States (Portes and Bach 1985; Bean and Tienda 1987).
>
> The Third Wave: 1973-1979. In 1973, the Cuban government unilaterally ended the airlift. Leaving Cuba could now only be accomplished through furtive escape. Research has documented the continual socioeconomic 'slide' of these immigrants, as this era is overwhelming represented by workers within the service sectors (Bean and Tienda 1987).
>
> The Fourth Wave: 1980. After the massive uprising of thousands of Cubans, the Cuban government announced the port of Mariel open to anyone who

> wished to leave the island. The Cuban government openly acknowledged the opportunity was being used to purge Cuba of "undesirables", a claim widely echoed in the American press. In just five months, 124,769 new Cubans arrived in the United States, more than the combined total for the preceding eight years (Pedraza 1996; Bean and Tienda 1987).
>
> The Fifth Wave: 1981-present day. The fall of the Soviet Union created an economic crisis within Cuba, increasing the desire for those to leave Cuba. Cubans continue to trickle into the United States (Portes and Bach 1985; Bean and Tienda 1987).

Due to the existence of a communist government within Cuba, Cubans are usually referred to as 'political' immigrants. Political immigrants are mostly "pushed" out of their home country by real or perceived direct threat to basic rights, such as life and liberty. The decision to emigrate is not motivated by the promise of gain, such as higher wages of economic migrants, but by the necessity to escape an unbearable reality. As a result, unlike Mexican immigrants, the movement out of Cuba has been, by and large, a one-way flow. The earlier exile waves looked upon their residence in the United States as provisional, as the overthrow of the Castro government would allow them to return to their home nation. More recently arrived Cubans, however, hold the expectation of a more permanent settlement (Pedraza 1996). In this sense, their migration pattern lacks the short-term orientation and cyclical arrangement distinguishing Mexican labor immigration.

The integration of Cubans into U.S. society has also been facilitated by the non-cyclical trajectory of their migration patterns . Cubans from 1960-1995 greatly benefited from their refugee status. Many Cuban refugees received assistance from the U.S. government – such as medical assistance, food stamps, transportation assistance, welfare, and job training – that eased their transition to life in America. The conference of refugee

status on the majority Cuban immigrants, as well as their greater stock of social capital, increased their integration into U.S. society.

Demographic and Socioeconomic Profile. There are currently over 1.2 million Cuban Americans within the United States. Cubans are highly concentrated in the South (particularly Florida's Dade County), as 80.1% of them reside in this geographical area of the United States (Therrien and Ramirez 2000). Among all Hispanic groups, Cubans have the lowest percentage (19.2%) of their population under the age of 18 while having the largest percentage of their population (21%) over the age of 65. In regards to nativity and citizenship, 68.6% of all Cuban Americans are foreign-born and of those that are foreign-born, 46.6% have become naturalized U.S. citizens (see Figure 2.1) while 53.4% have not become citizens.

Among all Hispanic subgroups, Cubans are the most likely to have graduated from high school, with 73% of adults having earned a high school degree. In addition, 23% of all Cubans have a bachelor's degree or higher (Therrien and Ramirez 2000). The median income of Cuban Americans is $37,000 with a 15.7 percent poverty rate for all Cuban American families (Current Population Survey 1999). Only 16.4% of all Cuban American children fall under the poverty line, the lowest percentage of all Hispanic subgroups (Ramirez 1999).

2.4 Conceptual Framework

This baseline relationship analyzed in the present study is between race/ethnicity and access to and sources of health care among Hispanics vis-à-vis non-Hispanic whites

and blacks. “Access to health care” is conceptualized as having access to a regular source of medical care. “Sources of health care” is conceptualized as the type of care being accessed – private doctor, clinic, emergency room or other medical facility. Well established in the literature is the heightened risk of decreased access to medical care among racial and ethnic minorities, with Hispanics substantially more likely than other racial/ethnic groups to lack a usual source of health care (Weinick et al 2000; Zuvekas and Weinick, 1999; Weigers et al 1998). Less clear is the particular role played by various immigration measures – namely nativity, duration and citizenship – on accessing a regular source of medical care and the types of medical care for Hispanic groups.

Race/ethnic differences in the access to and sources of medical care are conceptualized to be affected by sociodemographic variables including demographic precursors and immigration status measures as well as by proximate determinants. See Figure 2.3 for a diagram of the conceptual framework. Nativity, duration of residence and citizenship of Hispanics will hinder or facilitate access to medical care, as recent research has documented variation in health care access by these acculturation measures. Studies show that immigrants may be inadequately served by the US health care system (Thamer et al 1997; Shettterly et al 1996). Being foreign-born often compromises an individual’s access to the US health care system due to language barriers, lack of knowledge and fear of the medical system (LeClere et al 1994; Thamer et al 1997). Duration, or time spent in the U.S. as an immigrant, has been shown to alter the access to health care of individuals: as the length of time within the United States increases, an immigrant’s access to care also is enhanced (Thamer et al. 1997). The citizenship status

of immigrants has also been shown to affect access to care with noncitizens reporting lower access to medical care than citizens (Jang et al 1998). The role of nativity, duration and citizenship may reflect an integration process whereby as immigrants become more incorporated into the U.S. socio-political economic system, they may gain greater knowledge of the health system as well as either private insurance or government assistance that will better allow entry into the health care system (Frisbie et al 2001).

The impact on access to and sources of care when nativity and citizenship status are combined is unknown however. This study contributes an analysis of the immigration measures by combining nativity and citizenship status into a single measure to better explore the role various immigration statuses play in incorporating Hispanics into the U.S. medical system, a methodological undertaking that is absent in previous studies. By taking account of nativity, duration and citizenship statuses, this research is able to test the idea that as one further incorporates into the United States (immigrates to the United States, spends longer time in the United States, and naturalizes to a U.S. citizen), individuals have greater odds of having access to and better sources of medical care.

Demographic precursors will also influence the relationship between race/ethnicity and access to medical care. In this research, the demographic precursors of interest are sex, marital status (for adults), family structure (for children), age and geographic location have all been documented to influence access to medical care. Research has illustrated differences between men and women in regards to health care, as women are more likely to seek care than men (Merzel 2000; Verbrugge 1982). Access to and sources of medical care is also influenced by marital status. Married persons are

more likely to seek care than unmarried persons; in addition, married persons are more likely to have health insurance and access to heath care than unmarried persons (Zuvekas and Taliaferro 2003). Marital status also varies widely across groups, as blacks are less likely to be married than whites and Hispanics (Raley et al forthcoming). For the child sample, the family structure influences the access to health care a child may have (Weinick and Krauss 2000). Those children living in single mother households, for example, are less likely to have access to a regular source of care.

An inverse relationship between age and health access has been demonstrated; health care access needs are understood to increase with age. In addition, geographic locations, measured either regionally or as urban-rural, have been shown to affect the access to, and sources, of care (Chandra and Skinner 2003; Morales et al 2004). Socioeconomic mediators have been shown as the greatest influence on the relationship between race/ethnicity and access to medical care and therefore are considered mediators between the baseline relationship of interest. By 'mediator', it is meant that various socioeconomic status variables arbitrate or intercede between race/ethnicity and the access to and sources of health care one reports. Education, employment, family income and especially insurance status greatly affect the access to medical care for all race/ethnic groups. Limited education may hamper individuals from understanding the importance of medical intervention and the nature of the medical care system (LeClere et al 1994). Higher incomes improve the chances one has at access to the medical system as well as the sources of medical care (Kiefe et al 2000). Employment status is indicative of not only income, but it also increases the likelihood of having insurance. Both income and

insurance increase access to medical care. Insurance coverage increases access to care among Hispanics (Zuvekas and Weinick 1999). In addition, rates of health insurance coverage have been found to differ depending on immigrant status and length of residence within the United States (Thamer 1997). It is conceptualized that as socioeconomic status mediators are taken into account the inequalities in access to, and sources, of care will diminish among the race/ethnic groups.

Health status is also taken into consideration in considering the relationship between access to and sources of medical care and race/ethnicity. It is important to control for the overall health of the respondent, because general health could account for differences in the utilization or lack of utilization of health care.

These included variables of interest are influenced by several sets of interrelated risk factors. Selection of specific risk factors for inclusion in the present framework is based on three criteria. First, each risk factor has been shown to be associated with access to health care and health care utilization in previous studies. Second, the risk factors hold the potential to shed light on the association between race/ethnicity and access to health care. Third, the risk factors need to be available in a large nationally representative data set.

A few final thoughts on Figure 2.3, the diagram of the conceptual framework. This diagram provides an illustrative version of the models that will be run. This is not a full causal model. There is no doubt that reciprocal relationships exist between the variables of interest and these mutual associations are not being depicted pictorially. To sort out the complex relationships that undoubtedly exist between the variables of interest,

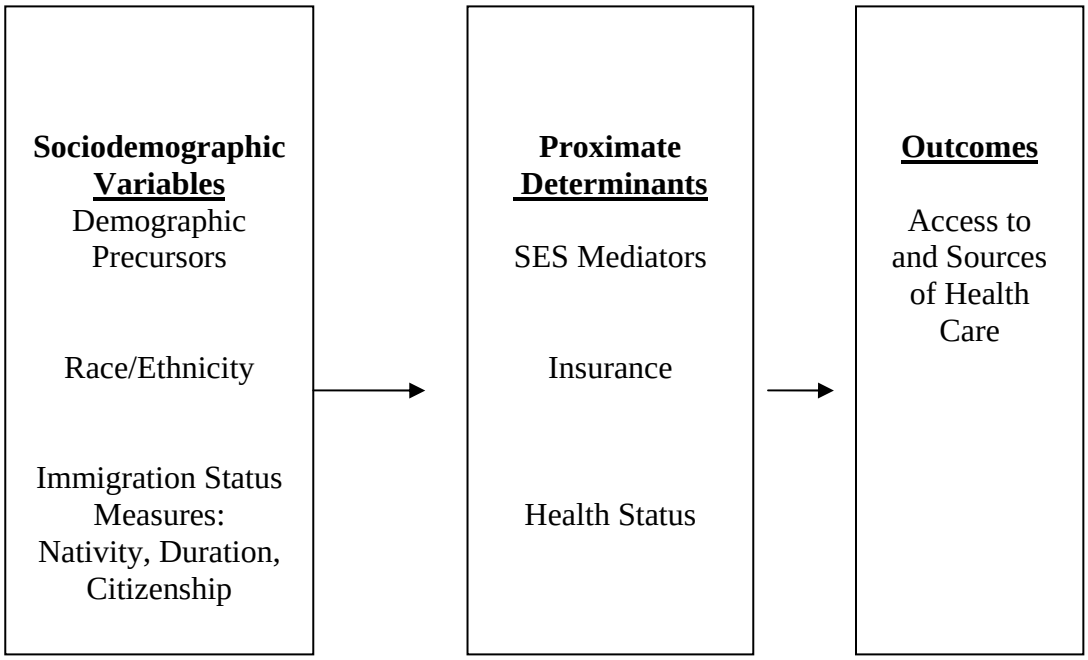


Figure 2.3 Conceptual Framework of Access to and Sources of Care for Race/Ethnic Subgroups of the United States considering the influences of sociodemographic precursors and proximate determinants

longitudinal data, structural equation analysis methods and larger sample sizes would have to be utilized. While I recognize the complexity between the variables, for analytical parsimony and due to data limitations, I will be running models as guided by the conceptual framework.

2.5 Working Hypotheses

Hypothesis 1: There will be basic race/ethnic differences in both the access to medical care and sources of medical care, without controlling for nativity, duration and citizenship status. Specifically, non-Hispanic whites will have the greatest access to care. In addition, non-Hispanic whites will be the most likely to utilize a private doctor relative to other types of medical care as their source of care.

Hypothesis 2: It is expected that the immigration status variables of nativity, duration and citizenship status will affect the access to and sources of care of the Hispanic population. Specifically, native-born Hispanics, those with increased duration in the United States, and those that have become naturalized U.S. citizens will have greater access to medical care and more likely to report a private doctor as their source of care. Thus, it is expected that the racial/ethnic differentials in health care access and types of medical care will subside when controlling for nativity, duration and citizenship. A decrease in differentials would indicate that the longer foreign born individuals are in the United States (as they acculturate) the greater their odds of being incorporated into the health care system.

Hypothesis 3: Once the immigration status measures of nativity, duration and citizenship are controlled, access to and sources of care for Hispanic ethnic groups will be affected.

> **3a:** Specifically, it is thought that once immigration measures are controlled, Cubans and Puerto Ricans will have greater access to care than Mexicans and Other Hispanics.

Cubans' greater access to care is explained by their high rates of citizenship as well as their high socioeconomic status. While Puerto Ricans will benefit from their citizen status, they will be disadvantaged in access to medical care by their lower socioeconomic status. However, it is hypothesized that Puerto Ricans are more incorporated into the U.S. society than Mexican Americans and this will increase their access to a usual source of medical care.

3b: The immigration measures will also affect the sources of care for the Hispanic subgroups. Once nativity, duration and citizenship are controlled, it is hypothesized that all groups will increase their odds of reporting 'private doctor' as their source of medical care.

It is hypothesized that Cubans are better incorporated into the U.S health system and therefore will have greater odds of reporting 'private doctor' as their source of care over other Hispanic ethnic groups. It is hypothesized that Mexican Americans and Puerto Ricans will rely more on other types of care besides a private doctor.

Hypothesis 4. It is expected that controls for socioeconomic status will decrease the access to and sources of health care inequalities between race/ethnic groups. Specifically, the inequality in access to and sources of health care between Hispanic sub-groups and Non-Hispanic whites will decrease once socioeconomic status indicators are controlled.

Hypothesis 5. The child sample will reflect the patterns seen within the Hispanic adult population. There will be basic race/ethnic differences in both the access to medical care and sources of medical care, without controlling for nativity, duration and citizenship status. I expect the nativity, duration and citizenship status of the mother to greatly affect access to and sources of care for children. In addition, Cuban and Puerto Rican children are expected to have greater access to care than other Hispanic children. Cubans will have greater odds of using a private doctor as their source of care due to their higher socioeconomic status.

2.6 New Contributions

Overall, this dissertation will contribute to the literature in the following ways:

(1) It uses a very large nationally representative data set to describe and probe the differences in access to and source of medical care among a variety of Hispanic sub-groups (specifically Mexican Americans, Puerto Ricans, and Cuban Americans) for both adults and children. This will allow an analysis of the different modes of health system usage among various Hispanic groups of the U.S.

(2) It takes into account the role of nativity, duration and citizenship of each Hispanic group. This will allow for a much-improved understanding of how immigration statuses might influence access to and sources of care.

(3) This research will rely on multivariate statistical analysis, not just descriptive profiles, which will allow for the controlling of demographic precursors and the

incorporation of socioeconomic mediators. Indeed, the multivariate modeling of socioeconomic factors, including health insurance, is conceptualized as an important way by which race/ethnic differences in access to care arise.

Chapter Three
DATA, MEASURES AND METHODS

3.1 Data Set

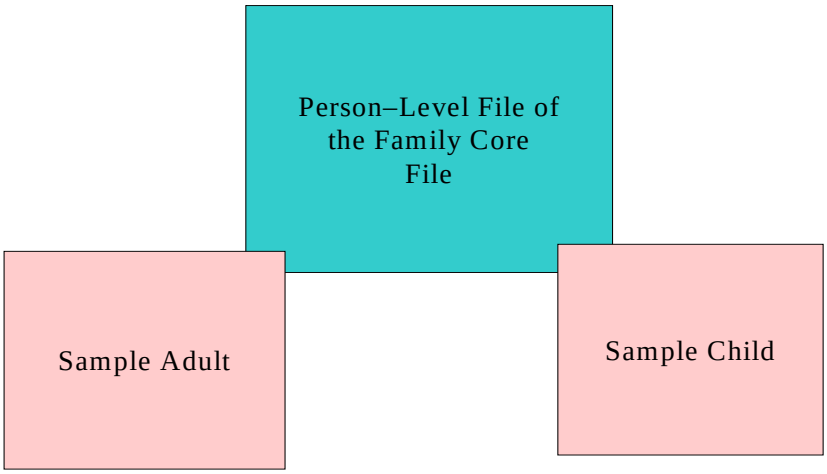
This research draws from data of the National Health Interview Survey (NHIS), a health survey conducted by the National Center for Health Statistics--Centers for Diseases Control and Prevention. The NHIS serves as the primary source of health information of the total noninstitutionalized population of the United States. Gathered continuously since its beginning in 1957, NHIS data are collected and released on an annual basis (ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHIS/2000/srvydesc.pdf).

The NHIS has three distinct components: A Basic Module; a Periodic Module; and a Topical Module. The Basic Module serves as the primary questionnaire and remains largely unaltered from year to year. This provides two overarching advantages: it allows analysts to probe various trends and, importantly for present purposes, allows data from more than one year to be pooled and augments the sample size, which is especially important for the examination of minority and foreign-born populations.

The Basic Module contains three separate components: the Family Core File, the Sample Adult Core File, and the Sample Child Core File. The Family Core amasses information on each member of the family. Data collected within the Family Core for every family member include: household composition and socio-demographic characteristics, basic indicators of health status and utilization of health care services, tracking information, and information for matches to administrative data bases. The

Family Core generates three data files: the Household-Level File, the Family-Level File and the Person-Level File. See Figure 3.1 for a diagram of the files used for this research.

Figure 3.1 Diagram of NHIS Data Files and Proposed Research Use



The proposed research will draw data from the Person-Level, the Sample Adult and the Sample Child data files. For the Adult Analysis, the Person-Level and the Sample Adult data files will be linked. For the Child Analysis, the Person-Level and the Sample Child data files will be linked.

From each family in the NHIS, a Sample Adult and Sample Child Core are created. One sample adult and one sample child (if any children under the age 18 reside in the household) are selected at random. Using the questionnaires from the Sample Adult Core and the Sample Child Core, further information on each individual is collected. As a number of health issues differ for children and adults, these two questionnaires diverge in

some items. However, both collect basic information on health status, health care access, and health behavior.

The Family Core component invites all adult members of the household[5] who are at home at the time of the interview to respond for themselves. A knowledgeable adult family member[6] residing in the household provides information for those adults not at home during the interview as well as for any children. The Sample Adult questionnaire randomly selects one adult per family and this individual responds for him/herself to the questions for this segment. The Sample Child questionnaire gathers information on one randomly selected child and this data is obtained from a knowledgeable adult residing in the household.

3.2 Sample Design

The National Health Interview Survey is a cross-sectional survey and continuous sampling and interviewing are maintained throughout each year. Representative sampling of households is carried out within the sampling frame by employing a multistage area probability design. The first stage includes a sample of 358 primary sampling units (PSUs) derived from approximately 1,900 geographically defined PSU's that cover the 50 states and the District of Columbia. The geographically defined PSUs may be either a county, a small group of contiguous counties, or a metropolitan statistical area (http://www.cdc.gov/nchs/about/major/nhis/hisdesc.htm).

[5] 'Adult members of the household' are considered those individuals 17 years of age and over.
[6] 'Knowledgeable adult family member' is denoted by NIH as an individual 18 of years of age or older.

Within each of the 358 PSUs, two types of second-stage units are used: area segments and permit area segments. A geographic classification, area segments contain either eight (8) or twelve (12) separate addresses. Permit area segments incorporate those geographic areas that contain housing units built after the 1990 census. The permit area segments contain an expected four (4) addresses. Within each segment, both area and permit area, all occupied households at the sample addresses are targeted for interview.

The total sample of PSU's is subdivided into four separate panels (the four quarters of each year), where each panel is a representative sample of the U.S. population. Households are selected for interview each week and each household is a sample representative of the target population. With the four sample panels, NHIS data are collected per annum from approximately 43,000 households totaling approximately 106,000 persons. Participation in the survey is voluntary and the confidentiality of response is assured under Section 308(d) of the Public Health Service Act. The annual response rate of NHIS is greater than 90 percent of the eligible households in the sample. Since 1995, the NHIS has oversampled for both Black persons and Hispanic households, which is ideal for this proposed study.

3.3 Defined Samples

Data for these analyses are drawn from both the Sample Adult File Supplement of the National Health Interview Survey (NHIS) and the Sample Child File Supplement. Each data group, the Adult Data and the Child Data, are merged for the years 1999-2001, the first and last years in which the required information for this analysis is currently

available. Each year of the Adult File includes roughly 31,000 individuals, yielding approximately 93,000 persons aged 18 or older. Each Sample Child File includes roughly 13,000 individuals, yielding approximately 39,000 persons aged 0-17. In addition, both files are linked to the Person-Level files of the National Health Interview Survey to provide necessary variables not available in the Adult and Child Sample files.

Information is gathered about the health and sociodemographic characteristics of each individual. The large size and stability of the NHIS is crucial to be able to evaluate nationally representative estimates for comparatively small subpopulations and the health estimates may be made across multiple years of data collection. Weights provided by NHIS are applied to take into account both sampling characteristics and nonresponse.

3.4 Sample Totals

The analysis focuses on two distinct samples: persons aged 25-64 (referred to as the "Adult Sample"), which yields an initial unweighted sample size of 65,061 and persons aged 0-17 (referred to as the "Child Sample"), which yields an initial unweighted sample size of 38,182**.** See Tables 3.1 and 3.2 for these totals.

Adults aged 25-64 are chosen to negate the effects of Medicare. Once reaching the age of 65, most individuals have access to the U.S. government health insurance program, Medicare. The sample is further limited to individuals aged 25 and older to diminish the "instability" that affects young adults as a result of early adult life changes, such as continuing education or instability in income. Within the access to care adult sample, there are a total of 11,742 persons of Hispanic origin as well as 43,540 non-

Table 3.1: Unweighted Total Sample Sizes for Analysis of Race/Ethnic Differences in Access to Care

	Mexican Americans	Puerto Ricans	Cubans	Other Hispanics	Non-Hispanic Whites	Non-Hispanic Blacks	Total Sample Size
Adults (aged 25-64)	7,148	1,236	630	2,728	43, 540	9,779	65,061
Children (aged 0-17)	7,151	989	345	2,139	21,122	6,436	38,182

Source: National Health Interview Survey, Sample Adult and Sample Child Data Files, 1999-2001

Hispanic whites and 9,779 non-Hispanic blacks. 'Sources of health care[7]' further explores the 'usual source of care' respondents report; specifically those adult respondents who report having access to a regular source of care are isolated and the type of regular access of care (private doctor, clinic, emergency room or other) is explored. For the sources of care adult sample, there are a total 8,515 persons of Hispanic origin. There are 37,822 non-Hispanic whites and 8,414 non-Hispanic blacks.

Within the access to care child sample, there are a total of 10,624 persons of Hispanic origin as well as 21,122 non-Hispanic whites and 6,436 blacks. As with the adult sample, those child respondents who report having access to a regular source of care are isolated and the type of regular access of care (private doctor, clinic, emergency room or other) is explored. For the sources of care child sample, there are 9, 131 persons of Hispanic origin. There are 20, 268 non-Hispanic whites and 6,021 non-Hispanic blacks.

[7] A direct indicator of source of health care is captured by the NHIS, which inquire "If you have a usual source of care, what kind of place is it --- a clinic, a doctor's office, emergency room or some other place?"

Table 3.2: Unweighted Total Sample Sizes for Analysis of Race/Ethnic Differences in Sources of Care

	Mexican Americans	Puerto Ricans	Cubans	Other Hispanics	Non-Hispanic Whites	Non-Hispanic Blacks	Total Sample Size
Adults (aged 25-64)	4,905	1,077	*	2,533	37,822	8,414	54,751
Children (aged 0-17)	6,014	**	**	3,117	20,268	6,021	35,470

Source: National Health Interview Survey, Sample Adult and Sample Child Data Files, 1999-2001

* For Sources of Care, Cubans are combined with Other Hispanics

** For Sources of Care, Puerto Ricans and Cubans are combined with Other Hispanics

3.5 Access to and Sources of Care for Adult Sample

Dependent Variables. The first dependent variable for adults throughout this dissertation is "access to health care", which is measured by whether or not the respondents convey having a usual source of care. Measuring access to care as having a usual source of care is the standard measure used by public health and demographic researchers (Weinick et al 2000). A direct indicator of access to health care is captured by the NHIS in the Adult File Supplements, which draws upon the item that probes whether respondents have a usual person/place for medical care. Respondents are asked "Is there a place you usually go to when you are sick or need advice about your health?" Responses indicating one or more regular sources of care are coded "Yes," while those who report no regular source are coded "No." Cases with missing data on this item are omitted.

The second part of the analysis explores the source of care. I identify those respondents who reply 'Yes' to having access to care and will further probe the *types of care* they usually receive when they are sick or need advice about their health. A direct indicator of source of health care is captured by the NHIS in the Adult File Supplements, which inquire, "If you have a usual source of care, what kind of place is it --- a clinic, a doctor's office, emergency room or some other place?"

Independent Variables. The primary relationships of interest are between race/ethnicity, nativity, duration of residence in the United States and citizenship, and access to and sources of health care. The independent risk factors include demographic precursors, and proximate determinants. The demographic precursors take into account age, sex, marital status, geographic region and metro/non-metro residence. The proximate determinants include socioeconomic mediators (education, family income, employment status) as well as insurance status and health status.

Sociodemographic Variables

Race/Ethnicity: Racial and ethnic disparities exist in access to care, with Hispanics substantially more likely than other racial/ethnic groups to lack a usual source of health care (Weinick et al 2000; Zuvekas and Weinick, 1999). Race/ethnicity takes into account non-Hispanic white, non-Hispanic black, and a variety of Hispanic subpopulations. NHIS identifies 10 specific Hispanic ethnic categories. For this

dissertation, I distinguish four Hispanic groups: Mexican/Mexican-American, Cuban, Puerto-Rican[8], and Other Hispanic[9].

Nativity: Being foreign-born often compromises an individual's incorporation to the US health care system (Thamer et al 1997). Nativity is included in the model to account for possible incorporation of Hispanics into the health care system of the United States. Nativity is a dichotomous measure that distinguishes respondents being born in the United States or in another country.

Duration: The length of residence within the United States may affect an immigrant's access to care (Thamer et al. 1997). As immigrants increase their time in the US, they may gain greater incorporation into the U.S., increasing their knowledge and use of the health system. Duration considers how long each immigrant has been in the country and is broken down into the following categories: born in the United States; 0-4 years in the country; duration of 5-9 years; and duration of 10 years or longer. These categories are similar to those specified by LeClere et al. (1994), Hummer et al. (1999) and Frisbie et al. (2001).

Citizenship: Citizenship status has been shown to influence having a usual source of medical care, with noncitizens reporting lower access than citizens (Jang et al

[8] NHIS only samples those Puerto Ricans that live on the mainland, not those that reside in Puerto Rico.
[9] Other Hispanic incorporates those respondents who are coded as Dominican, Central/South American and Other within the dataset.

1998). Recent legislative trends in the U.S. tend to impede immigrants from receiving health services and non-citizenship status may influence the lack of access to care. The citizenship variable will be a dichotomous variable, measuring which immigrants have become U.S. citizens.

Sex: Research has illustrated differences between men and women in regards to health care, as women are more likely to seek care than men (Merzel 2000; Verbrugge 1982). Sex is a simple dichotomous variable, with male as the reference group.

Age: An inverse relationship between age and health access has been demonstrated; health care access needs increase with age. Age is measured as a continuous variable and is limited to those respondents aged 25-64.

Marital Status: Access to and sources of care are influenced by marital status. Married persons are more likely to seek care than unmarried persons; in addition, married persons are more likely to have access to heath care than unmarried persons (Zuvekas and Taliaferro 2003). Marital status also varies widely across groups, as blacks are less likely to be married than whites and Hispanics (Raley et al forthcoming). Marital status is broken down as married (reference), widowed, divorced or separated and never married

Geographic Region: Geographical region of the country is divided into Northeast (reference), Midwest, South and West. The Northeast is considered the reference due to the fact that it has been reported that uninsurance rates are lowest in the Northeast (Current Population Survey 2003). In addition, there is a greater state role played in the Northeast to provide health assistance in comparison to other regions of the country.

Place of Residence: Place of residence is divided into large urban area (known as the metropolitan statistical area central city and is the reference), small urban area (referred to as the metropolitan statistical area non-central city) and non-urban area.

Proximate Determinants

Education: Limited education may hamper individuals from understanding the importance of medical intervention and the nature of the medical care system (LeClere et al 1994). Education is measured as less than high school, some high school, high school graduate, some college, college graduate and unknown.

Family Income: Higher incomes improve the chances one has at access to the medical system. Family income is measured in groups of less than $10,000, $10,000-19,999, $20,000-34,999 and $35,000+. Because of relatively high levels of non-reporting, a missing category is also specified.

Employment Status: Employment status is indicative of not only income, but it also increases the likelihood of having insurance. Both income and insurance increase access to medical care. Employment will be coded in the following: Employed full time; Employed parttime; No Work, in school; No Work, taking care of home and family; No Work, retired; No Work Disabled or Unhealthy; No Work, Other; Unemployed.

Insurance: Insurance coverage increases access to care among Hispanics (Zuvekas and Weinick 1999). In addition, rates of health insurance coverage have been found to differ depending on immigrant status and length of residence within the United States (Thamer 1997). Insurance is broken down into 3 distinct categories: (1) Private or HMO provided by Employer or Paid for by Individual; (2) Miscellaneous Government insurance; and (3) Uninsured or no coverage.

Health Status: Health status is taken into consideration. It is important to control for the overall health of the respondent, because general health could account for differences in accessing or not accessing health care. Health status is broken down into 3 distinct categories: Excellent/Very Good; Good; and Fair/Poor.

Weight: A sample weight will also be used in the analysis to adjust the sample for design effects, ratio, non-response and post-stratification adjustments for sample adults.

3.6 Weighted Frequency Distributions of All Variables by Race/Ethnicity for the Adult Sample

Table 3.3 provides weighted frequency distributions of the adult sample of all variables by race and ethnicity. The following section provides a brief discussion of these distributions.

Access to Care: As the table shows, 68.3% of all Mexican Americans have usual access to care and this is the lowest percentage of all the Hispanic groups. Puerto Ricans have the highest access to care of all Hispanic groups, 87.1%, which is almost identical to the non-Hispanic white percentage (87.5). 78.4% of Cubans report usual access to care.

Sources of Care[10]*:* Only 67.1% of all Mexican Americans report a doctor's office as their source of care, the lowest of all groups. 70.1% of all Puerto Ricans utilize a doctor's office as their source of care while 72.2% of Other Hispanics report a doctor's office. In comparison, almost 82% of Non-Hispanic whites use a doctor's office as their primary source of care and 73.2% of Non-Hispanic blacks use a doctor's office. 26.4% and 21.4% of Mexican Americans and Puerto Ricans, respectively make use of a clinic as their source of care. In contrast, 19.6% of Other Hispanics report a clinic as their usual source

[10] Due to cell size issues, Cubans will be combined with 'Other Hispanics' for the Adults' Sources of Care analyses.

Table 3.3: Weighted Percentages of Variables, Adult Sample

	Mexican American	Puerto Rican	Cuban American	Other Hispanic	Non-Hispanic White	Non-Hispanic Black
Usual Access to Medical Care	68.3	87.1	78.4	75.1	87.5	85.7
Sources of Usual Care						
Doctor's Office	67.1	70.1	^	72.2	81.8	73.2
Clinic	26.4	21.4	^	19.6	15.1	18.6
Emergency Room	3.9	7.3	^	5.9	1.8	6.7
Other	2.7	1.2	^	2.2	1.3	1.6
Nativity						
U.S. Born	40.3	47.6*	17.8	22.3	95.6	89.5
Foreign Born	59.7	52.4*	82.3	77.7	4.4	10.5
Duration of those foreign born						
Less than Five Years	13.6	6.9	11.7	14.9	16.4	14.1
Five to Nine Years	15.3	7.0	14.8	15.4	10.8	14.5
Ten or More Years	62.4	80.3	71.7	62.4	65.6	63.8
Unknown	8.7	5.9	1.9	7.4	7.1	7.7
Citizenship						
US Citizen	57.0	100.0	66.0	51.8	98.1	95.0
Non-Citizen	43.0	-	34.1	48.2	1.9	5.0
Duration and Citizenship						
Less Five Years and Noncitizen	13.2	-	11.5	14.4	15.3	12.9
Less Five Years and Citizen	0.3	6.9	0.2	0.5	1.0	1.1
Five to Nine Years and Noncitizen	14.0	-	11.8	12.9	8.2	11.7
Five to Nine Years and Citizen	1.2	7.0	3.0	2.3	2.6	2.7
Ten or More Years and Noncitizen	38.4	-	17.2	30.2	16.1	20.1
Ten or More Years and Citizen	23.5	80.3	53.9	31.5	49.2	43.4
Unknown	9.5	5.9	2.4	8.2	7.5	8.1
Sex						
Male	51.3	44.8	51.8	47.3	49.2	44.9
Female	48.7	55.2	48.2	52.8	50.8	55.1
Age (mean)	39.2	41.4	43.9	40.1	43.5	42.2
Marital Status						
Married	69.9	54.4	69.4	64.4	69.5	43.5
Widowed	1.5	3.3	2.6	1.3	1.9	3.5
Divorced or Separated	9.9	16.5	14.6	12.6	12.2	19.4
Never Married	18.7	25.8	13.5	21.7	16.4	33.6
Region of Country						
Northeast	1.4	59.3	11.1	31.7	20.2	17.3
Midwest	9.7	8.6	3.0	4.4	28.9	18.7
South	35.0	24.7	78.3	31.7	34.1	56.2
West	53.9	7.4	7.7	32.3	16.8	7.8

Table 3.3: Weighted Percentages of Variables, Adult Sample (Continued)

	Mexican American	Puerto Rican	Cuban	Other Hispanic	Non-Hispanic White	Non-Hispanic Black
Residence of Individual						
Large Urban Area	82.3	93.1	96.3	90.9	66.0	81.3
Small Urban Area	6.8	3.7	0.6	2.9	10.4	5.3
Non-Urban Area	10.9	3.2	3.1	6.1	23.6	13.4
Education						
Up to 8th Grade	31.8	10.2	9.1	17.0	1.9	3.8
Some High School	19.2	20.1	20.4	12.9	7.1	15.5
High School Degree	21.8	28.8	22.9	23.1	30.3	31.5
Some College	18.8	23.7	27.9	26.2	29.7	31.3
College Degree and Beyond	7.0	16.1	19.5	18.5	30.4	17.1
Unknown	1.3	1.1	0.32	2.2	0.7	0.8
Family Income						
Less than $9,999	7.1	10.0	5.7	5.8	3.1	8.9
$10,000-19,999	14.4	13.6	10.2	11.3	5.3	11.7
$20,000-34,999	20.9	16.7	14.3	20.2	12.4	17.4
$35,000 or more	46.3	51.2	62.1	53.4	72.6	50.7
Income Not Reported	5.4	3.5	5.6	4.4	4.3	6.0
Don't Know/Not Ascer.	5.9	5.1	2.1	4.7	2.3	5.4
Employment Status						
Employed Full Time	58.3	48.0	65.1	58.8	58.8	57.4
Employed Part-time	13.0	16.0	11.2	15.2	16.5	14.1
Unemployed	2.6	3.7	1.8	3.0	1.6	4.1
Homemaker, Taking Care of Chil	16.2	11.0	9.7	11.6	8.4	5.5
Not working -- School	0.7	0.6	0.9	1.0	0.7	1.0
Not working -- Retired	1.2	2.3	3.2	1.2	4.2	2.6
Not Working -- Disabled	1.3	4.1	1.3	1.0	1.6	3.4
Unknown	6.8	14.3	6.8	8.1	8.1	11.9
Insurance						
Private	51.3	57.6	66.9	56.7	82.3	64.6
Misc. Governemnt	22.0	28.6	12.2	20.4	8.8	19.3
Uninsured	26.8	13.9	20.9	22.9	8.9	16.2
Health Status						
Excellent/Very Good	27.5	28.0	36.0	33.1	35.2	27.1
Good	60.7	52.1	51.3	56.3	56.2	56.9
Fair/Poor	11.8	19.9	12.7	10.5	8.5	15.8

* US Born and Foreign born for Puerto Ricans refers to birth on the mainland and in Puerto Rico

^ Due to cell size issues, Cubans are combined with Other Hispanics for the Sources of Care Analyses

Source: National Health Interview Survey, Sample Adult and Person-Level Data Files, 1999-2001

of care. 15.1% of non-Hispanic whites and 18.6% non-Hispanic blacks describe clinic as their usual source of care.

3.9% of Mexican Americans rely on emergency rooms (E.R.s) as their usual source of care. Puerto Ricans has the largest percentage of their population reporting E.R.s as their usual source of care (7.3%). 5.9% of Other Hispanics describe emergency rooms as their usual source of care. In comparison, 1.8% and 6.7% of non-Hispanic whites and blacks, respectively, report the emergency room as their usual source of care.

Nativity: Only 40.3% of all Mexican Americans were born in the United States, while the remaining 59.7% are foreign-born. 47.6% of all Puerto Ricans were born on the mainland, while 52.4% were born in Puerto Rico. Over 82% of Cubans are foreign born, with only 17.8% were born in the United States.

Duration: Of those that are foreign born, 62.4% of all Mexican Americans have been in the United States ten years or more, 15.3% have been here five to nine years and 13.6% of Mexican Americans have been in this country less in the U.S. five years. Of those Puerto Ricans born on the island, 80.2% have been on the mainland more then ten years, 6.9% have been on the mainland five to nine years and 6.9% have been on the mainland less than five years. Among Cubans, 71.7%, 14.8% and 11.7% of the foreign-born have been in the U.S. more than ten years, five to nine years and less than five years, respectively.

Citizenship: A little over half of all Mexican American adults in this age range are U.S. citizens, leaving almost 43% as non-citizens. Puerto Ricans are *overwhelmingly* U.S. citizens. Only 34.1% of all Cubans are not U.S. citizens. Almost half of Other Hispanics are not U.S. citizens.

Marital Status: Among Mexicans, 69.9% are classified as married, with 9.8% classified as divorced, 1.4% are widows and 18.7% have never been married. Among Puerto Ricans, only 54.3% have been married. Almost 17% are classified as divorced while 3.2% are widows. Among Cubans, 69.4% are married, 14.6% are divorced, 2.5% are widowed and 13.5% have never been married.

Country Region: The large majority of Mexican Americans live in the West (53.9%) while a substantial percentage live in the South (35%). Puerto Ricans are largely concentrated in the Northeast, with 59.3% settled there followed by 24.7% settled in the South. The south holds the majority of Cubans, with 78.3% concentrated within this region.

Residential Location: The overwhelming majority of all Hispanic groups are located in large urban areas. 82.3% of all Mexicans are located in large urban areas, while 93.1% of Puerto Ricans and 96.3% of Cubans are as well. In comparison, only 66% of non-Hispanic whites are located in large urban areas.

Education: Among Mexican Americans, 31.8% have only up to eight years of education while 21.8% hold a high school degree and only 14.5% have at least a college degree. In comparison, 10.2% of Puerto Ricans have only a junior high education while 25.8% have only up to eight years of education. College degrees or beyond have been earned by just over 20% of all Puerto Ricans. 22.9% of Cubans have only a high school degree while 19.5% of Cubans have at least a college degree.

Family Income: Just over 20% of Mexican American families have an annual income of less than $20,000. 21% earn between $20,000-35,000, while 46.3% make more than $35,000. Among Puerto Ricans, just over 23% have an annual income of less than $20,000. Almost 17% earn $20,000-35,000, while 51% of Puerto Rican families make more than $35,000. Only 15% of Cuban families make less than $20,000 while 14% make $20,000-35,000. Over 62% of Cuban families have an annual income of $35,000 or more.

Employment Status: Over 58% of Mexican Americans are employed full time, while 13% work part-time. 16% of Mexican Americans are classified as homemakers. Almost 48% of Puerto Ricans are full-time employees, while 16% are employed part-time. 11% are unemployed. 65% of Cubans are employed full time, just over 11% are unemployed and 9% are classified as homemakers.

Insurance: Over 51.3% of all Mexican Americans have private insurance, while 22.0% have 'Miscellaneous Government' as their primary insurance source. Over 26% of Mexican Americans are not covered by insurance. Over 57.6% of all Puerto Ricans have private insurance, while 28.6% have 'Miscellaneous Government' as their primary insurance source. Only a little over 13% of Puerto Ricans are not covered by insurance. Over 66% of all Cubans have private insurance, while 12.2% have 'Miscellaneous Government' as their primary insurance source. A little over 20% of Cubans are not covered by any insurance. In comparison, 82.3% of non-Hispanic whites are covered by private insurance and about 9% of this population is not covered by any insurance. 64.6% of the non-Hispanic black population is covered by private insurance, with just over 16% uninsured.

Health Status: 27.5% of the Mexican American population reports being in excellent health, with 60.7% reporting good health. The remaining 11.8% of the population is in fair or poor health. 28.0% of Puerto Rican population describe being in excellent health and 28.6% depict their health as good. The remaining 13.9% are in fair/poor health. The Cuban population seems to have the best health, with 36% of them describing their health as excellent. 51.3% report having good health and 12.7% stating their health is fair or poor.

For the adult sample, the descriptive distributions show that all Hispanic subgroups are less likely to report access to a regular source of care in comparison to Non-Hispanic whites and blacks. This finding is not surprising as it is well established

that there exist inequalities in access to medical care among racial and ethnic minorities, with Hispanics substantially more likely than other racial/ethnic groups to lack a usual source of health care (Weinick et al 2000; Zuvekas and Weinick, 1999; Weigers et al 1998). Among the Hispanic subgroups, Puerto Ricans have the highest percentage reporting access to a regular source of care followed by Cuban Americans and Other Hispanics. Mexican Americans have the lowest percentage of persons reporting access to a usual source of medical care.

The descriptives also illustrate that Non-Hispanic whites report have superior medical care in comparison to Hispanic subgroups and Non-Hispanic blacks. A greater percentage of Non-Hispanic whites state a private doctor as their source of regular medical care in comparison to the other race/ethnic groups. Non-Hispanics have the lowest percentage relying on Clinic as their source of usual medical care while among Hispanic subgroups, Mexican Americans have the largest percentage reporting Clinic as their usual source of medical care.

In addition, a lower percentage of Non-Hispanic whites report the E.R. as their source of regular medical care. Among Hispanic subgroups, Puerto Ricans have the highest percentage reporting the E.R. as their usual source of medical care followed by Other Hispanics. Mexican Americans have the lowest percentage reporting the E.R. as their usual source of medical care. These descriptive findings support previous research that finds that Hispanic groups are less likely to rely on private doctors and instead depend on other sources of medical care (Guendelman and Wagner 2000; Weinick et all 2004).

Hispanic subgroups exhibit quite diverse immigration status patterns. In regards to nativity, Cubans and Other Hispanics have the largest percentage of foreign born within their population. While the duration patterns do not alter much between subgroups, the citizenship variable demonstrates much diversity. As consistent with previous literature, Cuban Americans have the highest rate of naturalization while Mexican Americans and Other Hispanics have the lowest rates (Current Population Survey 1999; Novello et al. 1991).

The SES profiles of the Hispanic subgroups reinforce findings of previous research (U.S. Census Bureau 2000; Current Population Survey: March 1999) which illustrate that Cuban Americans are the most advantaged of all Hispanic subgroups. Puerto Ricans and Mexican Americans are the least advantaged, as illustrated by higher rates of unemployment and lower levels of education.

3.7 Access to and Sources of Care for Child Sample

The measurement schemes for the Child Sample will be very similar to that described above for the Adult Sample. However, due to the special circumstances of children, different variables may at times be considered or identical variables may be conceptualized differently.

Dependent Variable As with the Adult Sample, the first dependent variable is access to health care. A direct indicator of access to health care is captured by the NHIS in the Child File Supplement, which draws upon the item that probes whether children have a

usual person/place for medical care. A parent or guardian is asked, "Is there a place your child usually goes to when they are sick or need advice about their health?" Responses indicating one or more regular sources of care are coded "Yes," while those who report no regular source are coded "No." Cases with missing data on these items are omitted.

The second part of the analysis explores the source of care. I identify those respondents who reply 'Yes' to having access to care and will further probe the types of care they usually receive when they are sick or need advice about their health. A direct indicator of source of health care is captured by the NHIS in the Adult File Supplements, which inquire "If you have a usual source of care, what kind of place is it --- a clinic, a doctor's office, emergency room or some other place".

Independent Variables The measurement schemes for the variables measures are as follows:

Sociodemographic Variables

Race/Ethnicity: Hispanic children were less likely than children in any other racial/ethnic group to have a usual source of health care (Weigers et al 1998). Race/ethnicity takes into account non-Hispanic white, non-Hispanic black, and a variety of Hispanic subpopulations. I distinguish four Hispanic groups: Mexican/Mexican-American, Cuban, Puerto-Rican, and Other Hispanic.

Nativity: Nativity is a dichotomous measure that distinguishes respondents being born in the United States or in another country. In focusing on the health access

for children, it is important to take into consideration the immigrant status of their mother, since children are dependent on adults for health care. The nativity of the mother is chosen due to the intimate role mothers usually play in the health care of their child. Research shows that mothers make the most investment in their child's health (Case and Paxsson 2000). Correspondingly, recent research has also documented that fathers were much less likely to participate in their child's health care (Moore and Kotelchuck 2004). In addition, the welfare laws of the 1990s have been speculated to discourage the use of medical facilities by immigrants (Aizer and Curie 2002) and this may negatively impact the health care sought out for immigrant women's children.

Nativity is a dichotomy that distinguishes the nativity status of each child's primary caregiver. Children who do not have a mother in the home are deleted from the analysis.

Duration: Duration is again a special case with children. Duration will consider the mother's nativity status and how long she has resided within the country. Duration is broken down into the following categories: mother born in the United States; 0-4 years in the country; duration of 5-9 years; and duration of 10 years or longer.

Citizenship: As with nativity and duration, citizenship will be a reflection of the mother's status. The citizenship variable will be a dichotomous variable, measuring which immigrants have become U.S. citizens.

Family Structure: The family structure influences the access to health care a child may have (Weinick and Krauss 2000). Family structure will measure the living situation of the child and will drop all cases that do not have a mother in the home. The family structure variable will be broken down in the following way: child living their married parents; child living with single mother; child living with cohabitating parents; child living with their mother/step-mother and stepfather/father; child living with mother and other adults (which includes other relatives and/or adult members).

Geographic Region: Geographic region of the country is divided into Northeast (reference), Midwest, South and West. The Northeast is considered the reference due to the fact that it has been reported that uninsurance rates are lowest in the Northeast (Current Population Survey 2003). In addition, there is a greater state role played in the Northeast to provide health assistance in comparison to other regions of the country.

Place of Residence: Place of residence is divided into large urban area (known as the metropolitan statistical area central city and is the reference), small urban area (referred to as the metropolitan statistical area non-central city) and non-urban area.

Proximate Determinants

Education: Research has indicated that the higher education of a child's mother impacts both child health and use of health services (Chen and Miller 1999; Flores et al 1998). Again, I use the personal information of the mother due to research that demonstrates it is *mothers* over fathers who make the most investment in their child's health (Moore and Kotelchuck 2004; Case and Paxsson 2000).

Education is measured as less than high school, some high school, high school graduate or GED, some college, and college graduate.

Family Income: Family income is measured in groups of less than $10,000, $10,000-19,999, $20,000-34,999 and $35,000+. Because of relatively high levels of non-reporting, a missing category is specified.

Insurance: Insurance coverage likely increases access to care among Hispanics (Zuvekas and Weinick 1999). In addition, rates of health insurance coverage have been found to differ depending on immigrant status and length of residence within the United States (Thamer 1997). Here I will consider the insurance status of the

child. As with the adult sample, insurance is broken down into 3 distinct categories: (1) Private or HMO provided by Parent's Employer or Paid for by Parent; (2) Miscellaneous Governmental Insurance; (3) Uninsured or No Coverage.

Health Status: Health status is taken into consideration and the parent/guardian is asked to evaluate the health of their child. It is important to control for the overall health of the respondent, because general health could account for differences in the utilization or lack of utilization of health care. Health status is broken down into 3 distinct categories: Excellent/Very Good; Good; and Fair/Poor.

Weight: A sample weight will also be used in the analysis to adjust the sample for design effects, non-response and post-stratification adjustments for sample children.

3.8 Weighted Frequency Distributions of All Variables by Race/Ethnicity for Child Sample

Table 3.4 provides weighted frequency distributions of the child sample of all variables by race and ethnicity. The following section provides a discussion of these distributions.

Access to Care: As the table shows, 84.9% of all Mexican Americans children have a usual source of care and this is the lowest percentage of all Hispanic groups. Puerto Ricans have the highest percentage of a usual source of care of all Hispanic groups, 93.9%, which is almost identical to the non-Hispanic white percentage (93.6). In addition, 90.9% of Cuban American children are reported to have a usual source of medical care.

Sources of Care[11]***:*** Only 62.6% of all Mexican Americans report a doctor's office as their source of care, the lowest of all groups. 63.7% of all Puerto Ricans utilize a doctor's office as their source of care, while 77.9% of Other Hispanics report a doctor's office. In comparison, just over 83% of Non-Hispanic whites use a doctor's office as their primary source of care and 68.6% of Non-Hispanic blacks use a doctor's office. 33.6% and 31.4% of Mexican Americans and Puerto Ricans, respectively, make use of a clinic as their usual source of care. 15.4% of non-Hispanic whites and 26.3% non-Hispanic blacks describe clinic as their usual source of care. 2.9% of Mexican Americans rely on emergency rooms (E.R.s) as their usual source of care. Puerto Ricans have the largest percentage of their population reporting E.R.s as their usual source of care (4.9%). 1.9% of Other Hispanics describe emergency rooms as their usual source of care. In comparison, 1% and 4.6% of non-Hispanic whites and blacks, respectively, report the emergency room as their usual source of care.

[11] Due to cell size issues, Cubans are combined with 'Other Hispanics' for the Sources of Care analyses.

Nativity: Only 57.1 of all Mexican American mothers were born in the United States, while the remaining 43% are foreign-born. Almost 59% percent of Puerto Rican mothers were born on the mainland, while about 41%were born in Puerto Rico. Over 68% of Cuban American children have mothers who are foreign born, with only 32% born in the United States.

Duration: Of those mothers that are foreign-born, 64% of Mexican Americans have been in the United States ten years or more, 22% have been in the U.S. five to nine years and

10% have been in the United States less than five years. For Puerto Rican mothers, 75% have been on the mainland over ten years, almost 13% have been in the United States five to nine years and 12% have been on the U.S. mainland less than five years. For Cuban mothers, 76% have been in the United States ten years or more, 10% have been in the

Table 3.4: Weighted Percentages of Variables, Child Sample

	Mexican American	Puerto Rican	Cuban	Other Hispanic	Non-Hispanic White	Non-Hispanic Black
Access to Medical Care	84.9	93.9	90.9	90.9	96.3	94.0
Sources of Usual Care						
Doctor's Office	62.6	63.7	^	77.9	83.1	68.6
Clinic	33.6	31.4	^	19.6	15.4	26.3
Emergency Room	2.9	4.9	^	1.9	1.0	4.6
Other	0.9	0.1	^	0.6	0.6	0.5
Nativity of the Mother						
U.S. Born	57.1	58.8	68.1	70.9	94.9	90.6
Foreign Born	42.9	41.2	31.9	29.1	5.1	9.4
Duration of Mother's Foreign Born						
Less than Five Years	10.8	12.9	10.3	7.2	13.7	15.8
Five to Nine Years	22.3	13.0	10.9	15.5	16.8	15.4
Ten or More Years	64.4	75.2	76.3	72.7	67.7	65.8
Unknown	2.5	0.0	2.5	4.6	1.8	3.0
Citizenship of Mother						
US Citizen	55.2	98.4	75.8	54.5	97.8	94.6
Non-Citizen	44.8	1.6	27.3	45.5	2.2	5.4
Duration and Citizenship						
Less Five Years and Noncitizen	9.4	1.2	12.5	10.2	12.1	10.3
Less Five Years and Citizen	0.3	10.8	0.5	0.6	0.5	0.7
Five to Nine Years and Noncitizen	14.6	1.3	15.5	11.3	9.2	11.4
Five to Nine Years and Citizen	1.0	7.2	0.8	3.0	3.5	2.5
Ten or More Years and Noncitizen	45.2	3.0	13.6	34.5	16.6	23.6
Ten or More Years and Citizen	21.1	71.3	53.9	31.7	51.5	42.8
Unknown	8.4	5.3	3.3	8.8	6.6	8.6
Age (mean)	7.8	8.4	9.1	8.0	8.6	8.4
Sex						
Male	52.1	51.6	50.2	51.2	51.7	50.0
Female	47.9	48.4	49.9	48.8	48.3	50.0
Family Structure						
Married Parents	42.3	28.3	38.4	38.4	59.5	23.4
Single Mother	11.2	31.6	14.2	18.3	10.6	35.4
Cohabitating Parents	4.3	6.5	2.7	5.3	3.9	5.6
Step Family	7.2	7.1	9.4	5.8	9.3	8.1
Other	34.9	26.5	35.4	32.3	16.8	27.5
Region of Country						
Northeast	1.4	66.9	8.8	33.1	19.5	17.5
Midwest	7.6	8.3	2.7	5.1	29.3	19.9
South	34.1	18.9	79.5	26.3	33.6	52.9
West	57.0	6.0	9.1	35.6	17.6	9.8

Table 3.4: Weighted Percentages of Variables, Child Sample

	Mexican American	Puerto Rican	Cuban	Other Hispanic	Non-Hispanic White	Non-Hispanic Black
Residence of Individual						
Large Urban Area	81.0	93.4	95.5	90.6	65.3	81.1
Small Urban Area	6.7	4.4	1.5	2.4	10.4	6.0
Non-Urban Area	12.3	2.3	3.0	7.0	24.3	13.0
Education of Mother						
Up to 8th Grade	29.0	7.8	1.2	15.8	1.3	1.9
Some High School	22.3	20.5	18.9	14.1	6.2	15.9
High School Degree	20.6	28.2	21.8	23.8	27.2	28.7
Some College	16.0	28.4	31.9	24.4	32.4	30.7
College Degree and Beyond	5.2	6.7	23.1	13.9	27.3	11.4
Unknown	6.9	8.3	3.1	7.9	5.6	11.5
Family Income						
Less than $9,999	8.3	13.8	7.0	8.8	2.9	12.4
$10,000-19,999	24.4	25.7	9.1	21.2	7.6	21.2
$20,000-34,999	21.7	18.5	17.8	19.5	11.8	17.3
$35,000 or more	28.5	29.1	51.1	35.2	60.5	32.5
Income Not Reported	17.1	12.8	15.1	15.4	17.2	16.6
Insurance						
Private	40.4	41.2	67.2	50.3	79.2	48.3
Misc. Governemnt	42.8	50.5	29.6	38.1	16.1	43.8
Uninsured	16.8	8.3	3.2	11.5	4.7	7.9
Health Status						
Excellent/Very Good	43.2	50.0	64.5	50.8	60.4	46.5
Good	54.6	45.7	35.3	46.9	38.4	50.1
Fair/Poor	2.1	4.3	0.2	2.3	1.2	3.5

* US Born and Foreign born for Puerto Ricans refers to birth on the mainland and in Puerto Rico

^ Due to cell size issues, Cubans are combined with Other Hispanics for the Sources of Care Analyses

Source: National Health Interview Survey, Sample Child and Person-Level Data Files, 1999-2001

U.S. five to nine years and the remaining 10% have been in the United States less than five years.

Citizenship of Mother: 55.2% of mothers of Mexican American children are U.S citizens, while 44% are not citizens. Almost 99% of Puerto Rican mothers are citizens of the United States. 75% of mothers of Cubans are U.S. citizens with the remaining 25% classified as non-citizens.

Family Structure: 42.3% of Mexican American children live with their married parents while 11.2% live with only their mother. Over 34% Mexican American children live in 'other' situations, which denotes living with not only parents (married or single mothers) but also other adult relatives and non-relatives. 28.3% of Puerto Rican children live with their married parents while over 31% live with only their mother. 26% of Puerto Rican children live in 'other' family structures. 38.4% of Cuban children live with their married parents, while 14% live only with their single mothers. 35% live in 'other' situations.

Country Region and Residence Local: The residence of various Hispanic children mirrors that of their parents in regards to country and residence location.

Education of Mother: 28% of Mexican American mothers only have up to an 8th grade education, while 23% of them have some high school education, but no degree. 23% of Mexican American mothers have earned their high school degree. Only 5% have earned a college degree. 8% of Puerto Rican mothers have completed at least 8 years of education while 22% have attended some high school. 30% are high school graduates and only 7% have a college degree. Only 2% of Cuban mothers have only up to an 8th grade education level while 23% have some high school education. 20% of Cuban mothers have high school degrees while 21% have earned a college degree. In comparison, only 1.3% of Non-Hispanic White mothers have up to an 8th grade education, while 6.2% of them have some high school education, but no degree. 27.2% of Non-Hispanic mothers have earned

their high school degree. Over 27% have earned a college degree. 1.9% of Non-Hispanic black mothers have completed at least 8 years of education while 15.9% have attended some high school. 28.7% are high school graduates and only 11.4% have a college degree.

Family Income: Over 32% of Mexican American children live in families that make under $20,000, while 21% live in families that make between $20,000-34,999. In addition, 28% of Mexican American children live in families that have an income of $35,000 or more. Among Puerto Rican children, 30.1% live in families that make less than $20,000 while 18.5% live in families that make between $20,000-34,999. $35,000 or more is earned by 29% of Puerto Rican families. Only 16% of Cuban children live in families that make under $20,000 while 17% of Cuban families make$20,000-34,999. Over 51% of Cuban children live in families that make $35,000 or more. Approximately 10% of Non-Hispanic white children live in families that make under $20,000, while 11.8% live in families that make between $20,000-34,999. In addition, 60.5% of Non-Hispanic white children live in families that have an income of $35,000 or more. Among Non-Hispanic black children, 33% live in families that make less than $20,000 while 17.3% live in families that make between $20,000-34,999. $35,000 or more is earned by 32% of Non-Hispanic Black families.

Insurance: While 42.5% of Mexican children are covered under private insurance, 34.8% are under Medicaid. Just over 20% of Mexican children are uninsured. For Puerto Rican

children, 42% are covered by private insurance while Medicaid covers 44% and only 9.9% are uninsured. Over 62% of Cuban children are covered by private insurance, while Medicaid covers 25% and 9% are uninsured. Virtually 80% of Non-Hispanic white children are covered under private insurance and 16.1% are under Medicaid. Just 4.7% of Non-Hispanic white children are uninsured. For Non-Hispanic black children, 48.3% are covered by private insurance while Medicaid covers 50% and 7.9% are uninsured.

Health Status: 43.2% of the Mexican American child population reports being in excellent health, with 54.6% reporting good health. The remaining 2.1% of the population is in fair or good health. 50% of Puerto Rican mothers describe their child as being in excellent health and 45.7% depict their health as good. The remaining 4.3% are in fair/good health. The Cuban population seems to have the best health, with 64.5% of children reported to be in excellent health. 35.3% report having good health and only .2% are reported to be in fair or poor health. 60.4% of the Non-Hispanic white child population reports being in excellent health, with 38.4% reporting good health. The remaining 1.2% of the population is in fair or good health. 46.5% of Non-Hispanic black mothers describe their child as being in excellent health and 50.1% depict their health as good. The remaining 3.5% are in fair/good health.

For the child sample[12], the descriptive distributions show that all Hispanic subgroups are less likely to report access to a regular source of care in comparison to Non-Hispanic whites and blacks. This finding is to be expected, as Hispanic children are

[12] Again note that for the child sample, Cubans have been combined with Other Hispanics due to cell size issues.

substantially more likely than other racial/ethnic groups to lack a usual source of health care (Weinick et al 2000; Zuvekas and Weinick, 1999; Weigers et al 1998). Mirroring the adult sample, Puerto Ricans have the highest percentage reporting access to a regular source of care followed by Other Hispanics. Mexican Americans have the lowest percentage of children reporting access to a usual source of medical care.

The descriptives also illustrate that Non-Hispanic whites report having superior medical care in comparison to Hispanic subgroups and Non-Hispanic blacks. A greater percentage of Non-Hispanic white children report a private doctor as their source of regular medical care in comparison to the other race/ethnic groups. Other Hispanics have the lowest percentage of children reporting a private doctor as their source of regular medical care. Non-Hispanics have the lowest percentage relying on Clinic as their source of usual medical care while among Hispanic subgroups, Mexican Americans by far have the largest percentage reporting Clinic as their usual source of medical care.

In addition, a lower percentage of Non-Hispanic whites report the E.R. as their source of regular medical care. Among Hispanic subgroups, Puerto Ricans have the highest percentage reporting the E.R. as their usual source of medical care followed by Mexican American children. Other Hispanics have the lowest percentage reporting the E.R. as their usual source of medical care. These descriptive findings support previous research that finds that Hispanic groups are less likely to rely on private doctors and instead depend on other sources of medical care (Guendelman and Wagner 2000; Weinick et all 2004).

Hispanic subgroups exhibit quite diverse immigration status patterns. In regards to the nativity status of mothers, Cubans and Other Hispanics have the largest percentage of foreign born within their population. While the duration patterns do not alter much between subgroups, the citizenship variable demonstrates much range. As consistent with previous literature, Cuban Americans have the highest rate of naturalization with Mexican Americans and Other Hispanics having the lowest rates (Current Population Survey 1999; Novello et al. 1991).

The SES profiles of the Hispanic subgroups reinforce findings of previous research (U.S. Census Bureau 2000; Current Population Survey: March 1999) which illustrate that Cuban Americans are the most advantaged of all Hispanic subgroups. Puerto Ricans and Mexican Americans are the least advantaged, as illustrated by lower family incomes and lower levels of mother's education. Cuban children have the highest rates of private insurance coverage while Mexican American children of the lowest percentage of private insurance coverage. Mexican American children have the highest percentage of uninsured among all race/ethnic groups.

3.9 Analytic Strategies

Logistic regression is used to model access to care outcome variable with the effects reported in the form of odds ratios. Logistic regression is an appropriate analytical tool because the dependent variable throughout this part of the analysis is dichotomous. Logistic regression does not try to minimize the sum of squares, but rather uses maximum likelihood estimation. Maximum likelihood estimation seeks to maximize the log

likelihood (LL) which reflects how likely it is (the odds) that the observed values of the dependent variable may be predicted from the observed values of the independent variables. Maximum likelihood estimation is an iterative algorithm which starts with an initial "guesstimate" of what the logit coefficients should be. After this initial function is estimated, the residuals are tested and a re-estimation is made with an improved function, and the process is repeated (usually about a half-dozen times) until convergence is reached (that is, until LL does not change significantly) (Powers and Xi 1999).

For the sources of care analyses, multinonimal logistic regression will be used and the effects are again reported in odds ratios. While the logic behind multinonimal logistic regression follows that of logistic regression, multinonimal logistic regression becomes the appropriate method when the dependent variable has more than two categories.

All analyses are conducted using the SUDAAN software to account for the complex sample design of the NHIS.

The following section will break down the analysis strategy for each chapter.

Adult Sample

To analyze the race/ethnic disparities in health care access and sources, I use logistic regression and multinomial regression modeling techniques, respectively. Binomial logistic regression models are appropriate for dichotomous outcomes such as health care access and multinomial logistic regression models are appropriate for multi-category outcomes such as health care sources (Powers and Xi 1999). I build the models progressively (see Mirowsky 1999) to best understand how precursor (confounding) and mediating variables influence the relationship between race/ethnicity and access to and

sources of health care. Progressive adjustment is an effective method to initially demonstrate that an association exists between the primary variables of interest and, second, to facilitate the understanding of how variables of interest affect the baseline association in question (Cho et al 2001; Rogers et al 2002). The first model in each analysis estimates basic race/ethnic differences in access to and sources of health care, controlling only for essential demographic variables. More complex models are built in a progressive fashion and include the immigration status variables (nativity, duration and citizenship), SES, insurance status and health status. These models progress sequentially in the manner indicated by the conceptual framework.

Race/Ethnicity Model (Model 1): The first model will run the primary relationship between race/ethnicity and access to medical care. This will test Hypothesis 1, which predicts race/ethnic differences in access to medical care and Hypothesis 3, which states certain Hispanic groups will have greater access to care then other Hispanic groups.

Demographic Model (Model 2): Model 2 will build upon the previous model by taking into account demographic precursors. Sex, age, marital status and geographic location will be controlled in this model while the relationship of race/ethnicity and access to medical care will be of primary importance. These demographic factors are selection factors which assist in increasing the access to

and sources of health care. This will allow for a more stringent test of the hypotheses.

Nativity, Duration and Citizenship Models (Models 3-5): The role of nativity, duration and citizenship are of central importance to the research. Exploring the role of nativity, duration and citizenship on access to medical care will allow me to investigate the incorporation of various Hispanic groups in the United States. Models 3-5 test Hypothesis 2, which states that native-born Hispanics, those with increased duration in the United States and those that are citizens of the United States will have greater access to care. These models will also test Hypothesis 3, which states that certain Hispanic groups will have greater access to care then other Hispanic groups.

Model 3 will include nativity in the analysis, exploring the impact of being born within the U.S. or foreign born on access to medical care.

Model 4 will further the analysis by exploring the impact of the length of time foreign-born individuals have been in the United States by including duration.

Model 5 will build upon the previous model by including the citizenship in the analysis. Citizenship will be combined with duration (those foreign-born in the country less than five years, non-citizens; those foreign-born in the country less than five years, citizens; those foreign-born in the country between five and nine years, non-citizens; those foreign-born in the country between five and nine

years, citizens; those foreign-born in the country between ten or more years, non-citizens; those foreign-born in the country between ten or more years, citizens) to avoid issues of multi-collinearity[13].

Socioeconomic Status Models (Models 6-7): Socioeconomic mediators are proposed to play a large role in access to health care. The following models will build upon the previous models by including socioeconomic mediators which will allow me to test Hypothesis 3, which explores the impact of socioeconomic status variables on access to medical care for various Hispanic groups.

Model 6 will include the employment, education and family income variables.

Model 7 will not only include the previously mentioned variables, but will also include the insurance variable.

Health Model (Model 8): Health must be taken into consideration; having poor health may increase the incorporation of an individual into the health system. Model 8 will built upon the previous models, but will include a health status variable. Model 8 will be the "full model".

The sources of care models will be run in the same order.

[13] Multicollinearity occurs when two variables are highly correlated. Citizenship is highly correlated to number of years in the country. An individual must be a lawful permanent resident for five years to apply for citizenship. For those married to U.S. citizens must be a lawful permanent resident for only three years to apply for citizenship. By combining citizenship with duration, I am able to avoid this issue.

In addition, separate models for each Hispanic subgroup, as well as for Non-Hispanic whites and blacks, will be run[14]. This will allow me to examine if the relationship between ethnicity, nativity, duration, citizenship and other risk factors and health care access differ among each Hispanic subgroup. Different migration histories and settlement patterns may influence the roles of nativity, duration and citizenship across Hispanic sub-groups; as such, there is good reason to explore these groups independently. This also allows me to control for the likelihood that the much larger white and black sub-samples overwhelms the relationship the independent variables and outcomes for the entire sample.

The full model will be run as stated above for each race/ethnic group.

Child Sample

To analyze the race/ethnic disparities in health care access and sources within the child sample, I again use logistic regression and multinomial regression modeling techniques, respectively. The models are built progressively (see Mirowsky 1999) to best appreciate how precursor (confounding) and mediating variables affect the relationship between race/ethnicity and access to and sources of health care. Progressive adjustment is a valuable method to demonstrate that an association exists between the primary variables of interest at the outset and, in addition, to facilitate the understanding of how variables of interest affect the baseline association in question (Cho et al 2001; Rogers et al 2002). The first model in each analysis estimates basic race/ethnic differences in access to and

[14] Please note however that due to sample size issues, I am forced to at times combine variables in ways that differ from the full model. More information will be given on new variable configurations in each specific outcome chapter.

sources of health care, controlling only for basic demographic variables. More complex models are built in a progressive fashion and include the immigration status variables (nativity, duration and citizenship), SES, insurance status and health conditions. These models progress sequentially in the manner indicated by the conceptual framework.

Race/Ethnicity Model (Model 1): The first model will run the primary relationship between race/ethnicity and access to medical care. This will test Hypothesis 1, which predicts race/ethnic differences in access to medical care and Hypothesis 4, which states certain Hispanic groups will have greater access to care then other Hispanic groups.

Demographic Model (Model 2): Model 2 will build upon the previous model by taking into account demographic precursors. Sex, age, marital status and geographic location will be controlled in this model while the relationship of race/ethnicity and access to medical care will be of primary importance. These demographic factors are selection factors which assist in increasing the access to and sources of health care. This will allow for a more stringent test of the hypotheses.

Nativity, Duration and Citizenship Models (Models 3-5): The role of nativity, duration and citizenship of the mother are of central importance to the research. Exploring the role of nativity, duration and citizenship on access to medical care

will allow me to investigate the incorporation of various Hispanic groups in the United States. Models 3-5 test Hypothesis 2, which states that native-born Hispanics, those with increased duration in the United States and those that are citizens of the United States will have greater access to care. These models will also test Hypothesis 3, which states that certain Hispanic groups will have greater access to care then other Hispanic groups.

Model 3 will include nativity in the analysis, exploring the impact of being born within the U.S. or foreign born on access to medical care.

Model 4 will further the analysis by exploring the impact of the length of time foreign-born individuals have been in the United States by including duration.

Model 5 will build upon the previous model by including the citizenship in the analysis. Citizenship will be combined with duration to avoid issues of multicollinearity.

Socioeconomic Status Models (Models 6-7): Socioeconomic mediators are proposed to play a large role in access to health care. The following models will build upon the previous models by including socioeconomic mediators which will allow me to test Hypothesis 3, which explores the impact of socioeconomic status variables on access to medical care for various Hispanic groups.

Model 6 will include the employment, education and family income variables.

Model 7 will not only include the previously mentioned variables, but will also include the insurance variables as the most proximate determinant of access.

Health Model (Model 8): Health must be taken into consideration; having poor health may increase the incorporation of an individual into the health system. Model 8 will built upon the previous models, but will include a health status variable. Model 8 will be the "full model".

The sources of care models will be run in the same order. Some differences do exist between the sources and access models. Due to cell size issues, I am forced to leave duration separate from citizenship status.

In addition, separate models for each Hispanic sub-group, as well as non-Hispanic whites and blacks, will be run[15]. This will allow me to examine if the relationship between ethnicity, nativity, duration, citizenship and other risk factors and health care access differ among each Hispanic. Different migration histories and settlement patterns may influence the role nativity, duration and citizenship across Hispanic sub-groups; as such, there is good reason to explore these groups independently. This also allows me to control for the likelihood that the much larger white and black sub-samples overwhelms the relationship the independent variables and outcomes for the entire sample.

[15] Again, as with the adult sample, due to sample size issues, I am forced to at times combine variables in ways that differ from the full model. More information will be given on new variable configurations in each specific outcome chapter.

The full model will be run as stated above for the following groups: Mexican Americans, Other Hispanics (includes all other Hispanic ethnic groups besides Mexican Americans), Non-Hispanic whites and Non-Hispanic blacks.

Chapter Four
ACCESS TO A REGULAR SOURCE OF CARE AMONG ADULTS

4.1 Introduction

Chapter 4 focuses on differences in access to a regular source of health care for adults among major Hispanic sub-populations of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, citizenship, length of time lived in the United States, and socioeconomic factors. These analyses rely on data from the National Health Interview Survey (1999-2001) and utilize logistic regression. Table 4.1 presents logistic regression coefficients, in the form of odds ratios, and displays the association between race/ethnicity and access to a regular source of health care under the context of a range of different models. Odds ratios below one indicate decreased chances of having access to a regular source of medical care in comparison to the reference group; values above one indicate a greater chance of having access to medical care in relation to the reference group.

Model 1 explores the basic relationship between race/ethnicity and access to a usual source of health care, which tests Hypothesis One (see pages 44-45). The results show that Mexican Americans clearly experience the lowest odds of having access to a usual source of health care, as they have almost 70% lower odds of usual care than Non-Hispanic whites. Cubans have 48% lower odds of having access to medical care in comparison to Non-Hispanic whites. Interestingly, Puerto Ricans are not significantly different in access to a usual source of medical care from Non-Hispanic whites, which is somewhat surprising. Previous work suggests Puerto Ricans would be significantly less

likely to have access to care than non-Hispanic whites. Puerto Ricans are more likely to be economically-disadvantaged which would decrease their access to a regular source of medical care (Solis et al 1990; Welch et al 1973). Other Hispanics have 57% lower odds of having access to care in comparison to Non-Hispanic whites. Non-Hispanic blacks are only 14% less likely to report having a usual access to care than Non-Hispanic whites.

The patterns of access to a regular source of medical care among different Hispanic groups are overall consistent with previous literature which indicates that Hispanic groups have less access to care (Zuvekas and Weinick 1999; LeClere et al 1994; Hubbell et al 1991; Trevino et al 1991). Hypotheses One stated that there will be basic race/ethnic differences in access to medical care, without controlling for nativity, duration and citizenship status. I find that Puerto Ricans are not significantly different from Non-Hispanic whites in regards to usual source of medical care without taking into consideration nativity, duration and citizenship influences. The lack of significance of usual access to care among Puerto Ricans is somewhat surprising in light of research that has documented the extremely low socioeconomic and health profiles of this subpopulation.

Model 2 controls for basic demographic precursors in the relationship between race/ethnicity and access to a regular source of health care and these model additions do not have a major impact on the results. The exception is among Non-Hispanic blacks, who are now not significantly different than Non-Hispanic whites. These results also show that Mexican Americans are just 34% as likely to report having a usual source of medical care as Non-Hispanic whites. Cubans have 46% lower odds of having access to

care in relation to the reference group. Puerto Ricans are again not significantly different from Non-Hispanic whites. Other Hispanics are 58% less likely to report a usual access to care in comparison to Non-Hispanic whites.

The relationship between access to a regular source of health care and various demographic precursors tend to work in the ways expected. Women report greater access to care than men (Merzel 2000; Verbrugge 1982) and those that are not married are less likely to report access to a regular source of health care as compared to those that are married (Zuvekas and Taliaferro 2003). Noteworthy results are shown in the region of the country variables. Those in the Midwest, South and West are all less likely to report access to a regular source of care than those in the Northeast. This may be a result of insurance rates, where it has been reported that uninsurance rates are lowest in the Northeast (Current Population Survey 2003). In addition, this may also be a result of a greater state role played in the Northeast to provide health assistance in comparison to other regions of the country.

Model 3, 4 and 5 introduce nativity, duration and citizenship, allowing for a test of Hypothesis Two (see pages 44-45) the impact of immigration status on reports of usual access to medical care within the United States. Model 3, which considers race/ethnicity and nativity, shows that foreign-born individuals have almost 47% lower odds of access to a regular source of medical care than US-born individuals. Previous work has hinted that immigrant status does not matter for reporting access to medical care (Hubbell 1991), but this work is hardly conclusive; other research has found that nativity does matter quite strongly for accessing medical care (LeClere et al 1994). The results here clearly show

that nativity matters and quite significantly so. These results also support hypothesis two which state that the native-born will have greater access to regular medical than foreign born.

Interestingly, all of the racial/ethnic differentials change considerably from the previous model. Specifically, with nativity in the model, the odds of access to a usual source of medical care increases for all Hispanic sub-groups compared to Non-Hispanic whites. This increase demonstrates that nativity has a crucial impact on racial/ethnic differentials in access to a regular source of care in the United States. That is, the less favorable access to a regular source of medical care among most Hispanic groups relative to Non-Hispanic whites in comparison to Model 2 is strongly influenced by nativity. However, nativity does not eliminate all differentials in access to care between Hispanic groups and Non-Hispanic whites. Mexican Americans are still only 49% as likely to have access to a regular source of health care. In addition, Other Hispanics are 35% less likely to report access as compared to Non-Hispanic whites.

Foreign-born status does affect the access to a regular source of medical care of the Cuban population as Cubans now join Puerto Ricans as not being significantly different from the reference group in access to medical care. The lack of difference between Cubans and non-Hispanic whites in terms of a regular source of medical care is not as surprising. The high socioeconomic status of Cubans is well documented (Bean and Tienda 1988), and this may well explain their increased access to a regular source of medical care. This lack of difference between Cubans and Non-Hispanic whites also supports hypothesis three which hypothesized that Cubans would have greater access to a

regular source of care than Mexicans and Other Hispanics. Non-Hispanic blacks again are no different than Non-Hispanic whites in reporting a regular source of medical care. Thus, nativity is a critical component to understanding differentials in access to a usual source of care among race/ethnic groups, but it does not completely explain away the existing differences.

Model 4 attempts to be more specific in accounting for the nativity effect that seems to contribute so importantly to care differentials for various Hispanic groups in comparison to Non-Hispanic whites. Duration, or the length of time foreign-born individuals have been in the United States, is now included, and is referenced against those who are U.S. born. Indeed, length of duration among immigrants in the United States increases the odds of reporting a usual source of access to medical care. Hypothesis two is again supported, as it stated that the longer foreign born respondents are in the United States, the greater their odds of reporting access to a regular source of health care. While immigrants that have been in the U.S. less than five years are 29% as likely to report access to a usual source of care in comparison to U.S. born persons, immigrants that have been in the U.S. from five to ten years are 52% as likely to report having a usual source of care in comparison to the reference group. Further, immigrants that have been in the country for ten years or more are still significantly different from the U.S. born: they are 75% as likely to have access to a usual source of care. Thus, more so than a simple nativity dichotomy, access to a usual source of care is associated with length of time immigrants spend in the United States (Thamer et al. 1997; LeClere et al. 1994). This change in coefficients over the duration categories seems to support the incorporation

argument. As immigrants integrate into the United States, they will come closer to reflecting the medical care access patterns of Non-Hispanic whites. The longer foreign-born persons have been in the U.S., the greater their chances of reporting having access to a regular source of health care as compared to the native born

Duration also has an impact on differentials in having access to a usual source of care across race/ethnic groups. Mexican Americans are 56% less likely to have access to a regular source of medical care while Cubans return to being significantly less likely (23%) to report access to a regular source of care than Non-Hispanic whites. Other Hispanics are now 41% less likely to report access to a regular source of care than Non-Hispanic whites. Puerto Ricans and Non-Hispanic Blacks are still not significantly different from Non-Hispanic whites in reporting access to medical care.

The analysis continues by including citizenship status in the model. Model 5 *combines* citizenship with duration and reinforces the role of citizenship in access health care (Jang et al. 1999). The results show that non-citizens in the country less than five years are 72% less likely to report access to a usual source of care than US born citizens. In comparison, foreign-born respondents who are in the country less than five years but are citizens are 61% less likely to report access to a usual source of care in comparison to the reference group. Those that have been in the country between five and nine years and are not citizens are 44% as likely to report having access to a usual source of care while those in the country for the same tenure (five to nine years) but who are citizens are not different in reporting access to a usual source of care than those who are native born US citizens. Those non-citizens who have been in the United States ten or more years are still

significantly less likely to have access to a usual source of care, as they are 41% less likely to report access to medical care. Foreign-born respondents who have been in the U.S. for more than ten years and are citizens, however, report no difference in having access to a usual source of medical care as US born citizens.

The results again bolster my hypothesis that immigration status variables will affect the access to care of the Hispanic populations. Hypothesis two argued that as foreign born respondents acculturate to the United States, as measured by duration and citizenship, there would be an increase the likelihood of reporting access to a regular source of care. Model five supports this hypothesis. Individuals with greater inclusion into the United States are more likely to reflect the same access to care patterns as the native-born. As the duration and citizenship measures demark an "increase" in the Americanization of Hispanic groups (from initial duration and non-citizen all the way to ten or more years and citizen), the inequalities in access to a usual source of medical care decrease to non-significance. I again note that my data are, indeed, not longitudinal and thus I am not following individuals as they acculturate *overtime*. Nevertheless, these results provide intriguing cross-sectional evidence that immigration status variables greatly affect the access to care of the Hispanic populations.

Controlling for citizenship status[16], in combination with duration, results in an improvement in access to a regular source of health care for Mexican Americans and Other Hispanics relative to Non-Hispanic whites. Mexican Americans now show 54% lower odds in having a usual source of care and Other Hispanics display 39% lower odds of access to usual care in comparison to Non-Hispanic whites. Cubans are still 24% less likely to report a regular source of care than the reference group. The lack of large change from model 4 to model 5 illustrates that citizenship plays a somewhat of a weak role in explaining access to care differentials across Hispanic subgroups, at least above and beyond the influences of nativity and duration. This is most likely because of the relatively low levels of citizenship among most of the Hispanic groups.

Comparing Model 1 to Model 5, substantial closure for the access to care coefficient results is made. Hypotheses two and three posed that the immigration measures of nativity, duration and citizenship status will affect the access to care of the Hispanic population. Specifically, native-born Hispanics, those with increased duration in the United States, and those that have become naturalized U.S. citizens will have greater access to health care. Results show that nativity, duration and citizenship do affect access to care. Together, the impact of nativity, duration and citizenship explain much of the

[16] I realize that exploring the role citizenship on access to care for the Puerto Rican samples leads to some confusion. Puerto Ricans *are* U.S. citizens. However, including citizenship makes sense for other Hispanic groups as well as making a valuable contribution to our understanding of acculturation. Including citizenship in the model does *not* affect or influence the outcome of the outcomes for Puerto Ricans. If you look from Model 4 (no citizenship variable included) to Model 5 (citizenship variable included), we see no difference in the significance level for Puerto Ricans. In addition, I ran the final model without the citizenship variable and the odds ratio for Puerto Rican changed only slightly. More specifically, with the combined duration-citizenship variable included, Puerto Ricans are 27% more likely to have access to care than the reference (see Model 8 on Table 4.1). With only duration and no citizenship variable included in the model, Puerto Ricans are 30% more likely to have access to care. Both odds ratios have the same significance level, of * or .05.

differentials in access to a regular source of care among Hispanic sub-groups in comparison to Non-Hispanic whites. The models show, however, that all disparities are not explained and also draw attention to the continued differences existing among Hispanic sub-groups in having access to a regular source of health care, even net of demographic factors and immigration status measures.

Model 6 includes socioeconomic status (SES) indicators, including education, household income, and employment status. The SES variables display patterns that are consistent with expectations. Education may facilitate an understanding of the importance of medical intervention as well as the nature of the medical care system (LeClere et al 1994). Those with less education than the reference group of sixteen plus years of education have lower odds of access to a regular source of care. In addition, income greatly affects the chances one has at access to the medical system as well as the sources of medical care (Kiefe et al 2000). Individuals in households with less than $35,000 (the reference group) have lower odds of access to a regular source of medical care and the employment indicators also work in the direction that is expected. That is, persons living in households with less money as well as unemployed persons are less likely to report having a usual source of medical care.

The inclusion of these variables alters the relationship between race/ethnicity, duration, citizenship and reports of access to a usual source of medical care, but not enough to completely erase the inequalities. This suggests that while socioeconomic status indicators do play a role in individuals having a regular source of health care, there are other factors that influence access to care. Non-citizens in the country less than five

years are 65% less likely to report access to a usual source of care than U.S. native born. In comparison, foreign-born respondents in the country less than five years but who are citizens are 56% less likely to report access to a usual source of care in comparison to the native born. Those that have been in the country between five and nine years and are not citizens are now 42% as likely to report having access to a usual source of care. Those non-citizens who have been in the United States ten or more years are still significantly less likely to have access to a usual source of care, as they are 25% less likely to report access to medical care. Citizens who have been in the country five to nine years as well as ten or more years are not different in reporting access to a usual source of care than those that are native born US citizens.

With the controlling of SES indicators, Mexican Americans are now 62% as likely to have access to medical care as Non-Hispanic whites and Cubans are 19% less likely to have access to a regular source of care. Other Hispanics are 31% less likely to have access to care. Interestingly, Non-Hispanic blacks are now 20% more likely to report having access to regular source of care than Non-Hispanic whites. This may be due to a reliance on emergency room (E.R.) and the tendency for African Americans to perceive the E.R. as a "regular source of care". Puerto Ricans are not significantly different in reporting access to a regular source of medical care in comparison to Non-Hispanic whites.

The findings from Model 6 lend support to support to Hypothesis 4, which stated that socioeconomic status indicators would be expected to decrease the access to health care inequalities between race/ethnic groups. Specifically, Hispanic sub-groups will have

decreases in the inequality in access to care between themselves and Non-Hispanic whites once socioeconomic status indicators are controlled. This hypothesis is confirmed, as shown in Model 6.

Model 7 builds on Model 6 by including a measure of health insurance. Insurance has long been considered a crucial necessity to accessing the U.S. medical system and research has shown the dramatic inequalities in insurance coverage by race/ethnicity (Thamer 1997; Zuvekas and Weinick 1999). Insurance considerably alters the access to care differentials for the citizenship and duration indicators. Access to a regular source of health care for non-citizens in the United States less than five years is not markedly different than the previous model, as they are 41% less likely to report access than the native-born in this most complete model. Citizens in the US for the same amount of time are also 41% less likely to report having access to a regular source of care. Non-citizens in the country five to nine years as well as ten or more years are still less likely to report having access to a usual source of care, 30% and 19% respectively. The remaining immigrant categories are no different than the reference group.

Somewhat surprisingly, controlling for insurance does not completely eliminate the gap for Mexican Americans and Other Hispanics in comparison to Non-Hispanic Whites. In comparison, however, controlling for insurance does alter the findings for Cuban Americans, as they now are no longer different than Non-Hispanic whites in reporting access to a regular source of medical care. Mexican Americans are still only 70% as likely to have access to care and Other Hispanics are 81% as likely to have access to care than Non-Hispanic whites. Puerto Ricans now join Non-Hispanic blacks as being

more likely to report having access to a regular source of care in comparison to Non-Hispanic whites. As with Non-Hispanic blacks, this may be due to a reliance on emergency room (E.R.). There could be a propensity for Puerto Ricans, highly concentrated in urban areas, to perceive the E.R. as a "regular source of care".

Model 8 builds on the previous model by including a measure of health status. While less healthy people tend to report great access to care, the inclusion of health status into the models does virtually nothing to the previous odds ratios reported in Model 7. The immigration variables are slightly altered, as those non-citizens in the country between five and nine years are now 74% as likely to report having access to a regular source of care in comparison to those that are US born while non-citizens in the country ten plus years are 84% as likely to report having access to medical care. Mexican Americans and Other Hispanics are 29% and 20%, respectively, less likely to report having access to a usual source of medical care. Puerto Ricans and Non-Hispanic blacks are still more likely to report having access to a regular source of care in comparison to Non-Hispanic whites.

These models have explored access to a regular source of care for a variety of Hispanic subgroups in relation to Non-Hispanic whites and blacks. They also explored the often-overlooked immigration variables of nativity, duration and citizenship. These models document the differences between Hispanic subgroups in reporting access to a usual source of medical care. Under the full model, Mexican Americans and Other Hispanics are less likely to report having a usual source of medical care in comparison to Non-Hispanic whites. Puerto Ricans were more likely to report having access to a usual

source of care in comparison to the reference while Cubans were not significantly different than Non-Hispanic whites. These models illustrate the heterogeneity among Hispanic subgroups in reporting access to a regular source of care.

In addition, the models illustrated the role of immigrant incorporation plays in influencing access to a regular source of care. As duration in the United States increases, the odds of reporting access to a regular source of care increase. In addition, citizenship status also enhances the odds of reporting access to a usual source of care. It was put forth that as groups acculturate (i.e, as immigrants to the United States spend longer time in the United States, and become U.S. citizens), they have greater odds of having access to medical care. These results support such an assertion.

Full Model by Race/Ethnicity

The full model was run for each race/ethnic group to determine if the predictor variables worked differently for each group (Hummer et al 1999). Significance tests (Clogg et al 1995; Musick personal communication) are run to test across groups; specifically each variable is tested against the reference of Non-Hispanic whites. See Table 4.2 for results. Due to cell size concerns, Cubans had to be combined with Other Hispanics to allow the full model to be run.

While the table clearly shows that the significance of identical variables varies between race/ethnic groups, significance tests illustrate that only a few categories are significantly different between race/ethnic groups and Non-Hispanic whites. The only significant education category difference is between Puerto Ricans and Non-Hispanic

Whites in the "up to 8th grade" category. However, the models show that within each race/ethnic group, this category does not significantly differ from the reference category of college degree and beyond.

The only other significant differences are for Mexican Americans as referenced against Non-Hispanic whites in the areas of insurance and health status. Mexican Americans with miscellaneous governmental insurance are 77% less likely to report access to care than those with private insurance. In contrast, Non-Hispanic whites are 61% less likely to report access to care than those with private insurance. For Mexican Americans, those who report good health are only 79% as likely to report access to a regular source of care while Non-Hispanic whites who report good health are 15% more likely to report access to care.

These models have explored access to a regular source of care separately for each race/ethnic group to determine if the predictor variables worked differently across groups. In essence, this research finds that the variables of interest seem to work the same for each race/ethnic group.

In conclusion, access to a regular source of care varies tremendously between the Hispanic groups. Mexican Americans and Other Hispanics are less likely to report access to a regular source of care in comparison to Non-Hispanic whites. In comparison, Cuban Americans are not significantly different from Non-Hispanic whites in reporting access to a regular source of care while Puerto Ricans are more likely to report access to a regular source of care. This research illustrates that aggregating Hispanics into a single group conceals the significant diversity that exists within this population in accessing a regular

source of medical care. In addition, nativity, duration and citizenship contribute greatly to the incorporation of various Hispanic groups into the U.S medical system. The odds of reporting access to a regular source of care increase as incorporation into the United States increases. This research has taken into account the 'direction' of Hispanic individuals towards the U.S. core culture and illustrates the importance of immigration status (immigrates to the United States, spends longer time in the United States and naturalizes as a U. S. citizen) in having access to a regular source of care.

The following chapter will further explore types of care. Specifically, it will focus on those respondents who report having access to a regular source of care and probe the relationship between race/ethnicity and source of care (private doctor, clinic, emergency room or other).

Chapter Five
SOURCES OF REGULAR MEDICAL CARE AMONG ADULTS

5.1 Introduction

Chapter 5 focuses on differences in sources (or types) of health care for adults among major Hispanic sub-populations of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, duration and citizenship, as well as demographic precursors and socioeconomic factors. It builds on the previous chapter by isolating those reporting having access to a regular source of care and further probes the source of care they regularly use, be it a private doctor, a clinic, the emergency room or other. Please note that for this analysis, unlike with the access to care analysis, Cubans will be combined with Other Hispanics due to limited cell sizes. This category is now referred to as 'Other Hispanics'.

These analyses rely on data from the National Health Interview Survey (1999-2001) and utilize multinomial logistic regression. Table 5.1 presents logistic multinomial regression coefficients, in the form of odds ratios, and displays the association between race/ethnicity and sources of regular health care under the context of a range of different models. Odds ratios above one indicate a greater chance of using a particular source of care relative to the use of a private doctor's office; those below one indicate decreased chances of using a particular source of care relative to the use of a private doctor's office.

Model 1 explores the baseline relationship between race/ethnicity and sources of health care, which assesses the hypothesis that there will be basic race/ethnic differences in the sources of medical care, without controlling for nativity, duration and citizenship

status. The results show Mexican Americans are 2.13 times more likely than Non-Hispanic whites to report using a clinic as their usual source of health care relative to their use of a private doctor's office. In comparison, Puerto Ricans are only 1.66 times more likely, and Other Hispanics 1.47 times more likely than Non-Hispanic whites, to report using a clinic as their usual source of health care relative to their use of a private doctor's office. Non-Hispanic blacks are only 1.38 times more likely than Non-Hispanic whites to report using a clinic in relation to their use of a private doctor's office.

The odds ratios increase tremendously for the use of emergency rooms as the usual source of care for all minority groups in relation to Non-Hispanic whites. Mexican Americans and Puerto Ricans are 2.69 and 4.79 times more likely than Non-Hispanic whites, respectively, to report the use of the E.R. as their usual source of care relative to their use of a private doctor's office. Other Hispanics are 3.81 times more likely than Non-Hispanic whites to rely on the E.R. as compared to a private doctor and Non-Hispanic blacks than Non-Hispanic whites are 4.21 times more likely to report the emergency room as their usual source of care.

In regards to those who report 'Other Medical Facility' as their usual source of care, Mexican Americans have 2.43 greater odds to report other than Non-Hispanic whites as compared to their use of a private doctor's office. In contrast, Puerto Ricans are not significantly different from Non-Hispanic whites in reporting Other as their usual source of care. Other Hispanics are 89% more likely and Non-Hispanic Blacks are 30% more likely to report Other as their usual source of care compared to Non-Hispanic whites.

The patterns seen here for sources of medical care reported among different Hispanic groups are largely consistent with postulations earlier made. Hypotheses One stated that there would be basic race/ethnic differences in the sources of medical care, without controlling for nativity, duration and citizenship status. I find that all Hispanic subgroups, in comparison to Non-Hispanic whites, are much more likely to report clinics and emergency rooms as their primary source of care as compared to Non-Hispanic whites in use of a private doctor's office. Mexican Americans and Other Hispanics are also more likely to report the use of 'Other' as their regular source of care in comparison to Non-Hispanic whites relative to the use of a private doctor. Thus, there are *major* differences across groups in reporting sources of the *source* of regular access to health care.

Model 2 controls for basic demographic precursors in the relationship between race/ethnicity and sources of regular source of health care and these model additions have a key effect on the results. Specifically, the addition of the demographic precursors into the model *increases* the odds that Hispanic subgroups, relative to Non-Hispanic whites, are more likely to report the use of clinic or emergency room as their primary source of care as compared to a private doctor's office. That is, most differences are even wider than reported above.

The results show Mexican Americans are now 2.4 times more likely compared to Non-Hispanic whites to report using a clinic as their usual source of health care relative to their use of a private doctor's office, while Puerto Ricans are 2.69 times more likely than Non-Hispanic whites to do the same. In contrast, Other Hispanics are 2.16 times more

likely than Non-Hispanic whites to report using a clinic as their usual source of health care relative to their use of a private doctor's office. Further, Non-Hispanic blacks are 1.65 times more likely than Non-Hispanic whites to report using a Clinic in relation to their use of a private doctor's office.

Mexican Americans have 2.8 greater odds than Non-Hispanic whites of reporting the use of an emergency room as the usual source of medical care relative to their use of a private doctor. Puerto Ricans and Other Hispanics are 4.98 times and 4.27 times, respectively, more likely than Non-Hispanic whites to report using an emergency rooms as the primary source of medical care. In addition, Non-Hispanic blacks are 3.84 times more likely than Non-Hispanic whites to report the emergency room as their usual source of care.

Finally, Mexican Americans are 1.99 times more likely than Non- Hispanic whites to report 'other' as their usual source of care as compared to their use of a private doctor's office. At the same time, Other Hispanics are 91% more likely than Non-Hispanic whites to report other. Non-Hispanic blacks now join Puerto Ricans as not being significantly different from Non-Hispanic whites in reporting other as their usual source of care as compared to a private doctor's office.

Model 3, 4 and 5 introduce nativity, duration and citizenship, allowing for a test of the impact of immigration status on sources of regular medical care within the United States. Model 3, which considers race/ethnicity and nativity, shows that foreign-born individuals are almost 68% more likely than native-born individuals to report using a clinic as their usual source of health care relative to their use of a private doctor's office.

In comparison, immigrants are 41% and 78% more likely, respectively than the native born to report emergency room and other as their usual source of health care relative to their use of a private doctor's office. The results here clearly show that nativity influences the source of medical care that is regularly accessed in the United States. These results support Hypothesis Two, which stated that the native born would be less likely than foreign born to report the uses of clinics, emergency rooms and other medical facilities relative to their use of private doctor's office as their regular source of care.

Interestingly, all of the racial/ethnic differentials change considerably from the previous model. Specifically, with nativity in the model, the differences between sources of medical care utilized by all Hispanic sub-groups as compared to Non-Hispanic whites decrease. This decrease reveals that immigration status has a key influence on racial/ethnic differentials in the type of medical care regularly used in the United States. That is to say, the "less favorable" sources of medical care (private doctor being considered the most favorable) among most Hispanic groups relative to Non-Hispanic whites in comparison to Model 2 is strongly influenced by nativity. Mexican Americans are now only 86% more likely than Non-Hispanic white to report using a clinic as a private doctor as the usual source of care as relative to a private doctor. Puerto Ricans, in contrast, are 2.12 times more likely than Non-Hispanic whites to utilize a clinic rather than a private doctor as their usual source of medical care. Other Hispanics and Non-Hispanic blacks are 52% and 61% more likely than Non-Hispanic whites to report clinic as the primary source of medical care, relative to using a private doctor.

Mexican Americans are 2.4 times more likely than Non-Hispanic whites to report using an emergency room as their source of care, while Puerto Ricans are still over 4 times more likely than Non-Hispanic whites to rely on an E.R. Other Hispanics now have 3.38 greater odds of reporting the emergency room as their primary source of medical care compared to Non-Hispanic whites. Thus, nativity is important in explaining differentials in sources of medical care across race/ethnic groups, but it does not completely explain away the existing inequalities.

Model 4 attempts to be more specific in conveying the nativity effect that seems to contribute to source of care differentials for various Hispanic groups in comparison to Non-Hispanic whites. Duration, or the length of time foreign-born individuals have been in the United States, is now included, and is referenced against those who are U.S. born. Undeniably, length of duration among immigrants in the United States affects the primary source of medical care and is a crucial component to understanding differentials between race/ethnic groups. Model 3 shows that foreign-born individuals who have been in the U.S. less than five years are almost 3 times more likely to report using a clinic (relative to their use of a private doctor) as compared to those who are native born. In comparison, immigrants in the country five to nine years are 2.44 times more likely to report utilizing a clinic than native-born individuals, while those foreign-born in the U.S. ten years are more are not significantly different than the U.S. born in using a clinic in relation to a private doctor.

Foreign-born individuals who have been in the U.S. less than five years are 2.42 times more likely to report using the E.R. relative to their use of a private doctor as

compared to those that are native born. As for immigrants in the country five to nine years, they have 2.44 greater odds than the native born of reporting emergency room as compared to the use of a private doctor. Foreign-born immigrants in the U.S. ten or more years are no different in their use of the E.R. in comparison to the native-born.

Immigrants in the country less than five years are almost 4 times more likely than the native-born to report using other medical care relative to a private doctor while foreign-born respondents in the United States between five and nine years are 2.8 times more likely than the native born to report using other. Immigrants in the country ten years or more are only 21% more likely than the native-born to report using other medical care relative to a private doctor.

As immigrants acculturate to the United States (again, acculturate being defined as increased time in the U.S.), the differences in sources of medical care decreases. As a result, more so than a simple nativity dichotomy, the type of source of care is strongly associated with the length of time immigrants spend in the United States. This substantiates Hypothesis Two which declared that as immigrants acculturate into the United States, they will come closer to imitate the sources of medical care patterns of the native born. The longer foreign-born persons have been in the U.S., the greater their chances of reporting the same source of medical care as the native born.

Duration also has an impact on differentials in the category of medical care across race/ethnic groups. Mexican Americans are now only 90% more likely than Non-Hispanic whites to report the use of a clinic relative to their use of a private doctor Puerto Ricans are 2.2 times more likely than Non-Hispanic whites to rely a clinic over a

private doctor, while Other Hispanics are 54% more likely compared to Non-Hispanic whites to report the use of a private doctor in relation. Non-Hispanic blacks are 62% more likely to report using a clinic as Non-Hispanic whites relative to the use of a private doctor.

Emergency room differences between the race/ethnic groups still strongly remain. Mexican Americans and Puerto Ricans are 2.4 and 4.4 times more likely than Non-Hispanic whites to report the use of an emergency room as the regular source of care relative to the use of a private doctor. Other Hispanics have 3.34 greater odds than Non-Hispanic whites of reporting the E.R. rather than a private doctor as their usual source of care. Non-Hispanic blacks are 3.7 times more likely compared to Non-Hispanic whites to use the E.R. In regards to the use of Other Medical Facilities, Mexican Americans remain as the only group significantly different than Non-Hispanic whites.

The analysis continues by including citizenship status in the model. Model 5 unites citizenship with duration and shows that non-citizens in the country less than five years are significantly different in the sources of care they report. Those non-naturalized foreign born respondents in the U.S. less than five years are 3.2 times more likely than the native born to report using a clinic relative to a private doctor. In addition, they are 2.8 times and 4.15 times more likely than the native born to report using the Emergency Room and Other Medical Facility, respectively, relative to their use of a private doctor as their type of regular health care. Those immigrants in the United States less than five

years that have naturalized[17], however, are no significantly different than the native born in their sources of care.

Non-naturalized immigrant respondents in the U.S. between five and nine years also report differences in the sources of care they report. They are 2.8 times more likely than the native-born to report using a clinic as the source of their usual care, and 3 times more likely than the native-born to report relying on the Emergency Room, relative to their use of a private doctor. In addition, those foreign born in the United States between five and nine years that are not citizens are 3.52 times more likely than the native-born to report Other Medical Facility as their source of medical care relative to the use of a private medical doctor. Those immigrants in the United States between five and nine years that have naturalized, however, are only significantly different as compared to the native born in their sources of care within the clinic category. Naturalized foreign-born respondents in the United States between 5-9 years are 51% more likely than the native born to report using a clinic as their usual source of care relative to a private doctor relative to those that are native-born.

Immigrants in the U.S. for more than ten years who have not naturalized continue to report significant differences in their sources of care; however we see a substantial decrease in the odds as compared to the previous duration measures. A non-naturalized foreign-born in the country for ten plus years are almost 2 times more likely than native-born respondents to report using a clinic as their primary source of care relative to a private doctor. They are 81% and 53% more likely than the native-born to report the use

[17] Note that this is a *very small group*. Only spouses of citizens are allowed to naturalize with less than five years of duration.

of an E.R. or other, respectively, as the source of medical care relative to a private doctor. Only within the clinic category are naturalized immigrants in the U.S. ten or more years significantly different from the native-born in the source of regular care; naturalized foreign-born respondents in the United States ten or more years are 17% more likely than the native-born to report clinic as their source of care relative to a private doctor's office.

The results again strongly support my hypothesis that immigration status variables will affect the sources of regular health care of the Hispanic populations. Hypothesis two argued that as foreign born respondents incorporate into the United States, as measured by duration and citizenship, there would be an increase in the likelihood of reporting a private doctor as the source of regular health care. Model five supports this hypothesis. Individual with greater incorporation into the United States are more likely to reflect the same sources of care patterns as the native-born. As the duration and citizenship measures demark an "increase" in the Americanization of Hispanic groups (from initial duration and non-citizen all the way to ten or more years and citizen), the inequalities in the usual source of medical care decrease. I again note that my data are, indeed, not longitudinal and thus I am not following individuals as they acculturate *overtime*. Nevertheless, these results provide intriguing cross-sectional evidence that immigration status variables greatly affect the sources to care of the Hispanic populations.

Controlling for citizenship status, in combination with duration, results in some changes in the sources of medical care reported. Mexican Americans and Other Hispanic are 79% and 51% more likely than Non-Hispanic whites, respectively, to report clinic as their regular source of care relative to a private doctor. Puerto Ricans are 2.5 times more

likely than Non-Hispanic whites to report clinic as their usual source of care relative to a private doctor. Non-Hispanic blacks are still just over 60% more likely than Non-Hispanic whites to report a clinic as their main source of care relative to a private doctor.

In a slight improvement from the previous model, Mexican Americans are 2.27 times more likely than Non-Hispanic whites to report the emergency room as their source of medical care relative to their use of a private doctor's office. Puerto Ricans have 5.3 greater odds and Other Hispanics 3.2 greater odds of stating the E.R. as their usual source of care relative to a private doctor as compared to Non-Hispanic whites. Non-Hispanic blacks are 3.76 times more likely than Non-Hispanic whites to report the emergency room as the usual source of medical care relative to a private doctor. Mexican Americans again are the only race/ethnic group significantly different from Non-Hispanic whites in reporting Other Medical Facility over private doctor's office as a source of care (54% more likely). The lack of large change from model 4 to model 5 illustrates that citizenship plays a somewhat of a weak role in explaining sources of care differentials across Hispanic subgroups, at least above and beyond the influences of nativity and duration. This is most likely because of the relatively low levels of citizenship among most of the Hispanic groups.

Hypotheses two and three posed that the immigration measures of nativity, duration and citizenship status will affect the sources of care reported by the Hispanic population. Specifically, native-born Hispanics, those with increased duration in the United States, and those that have become naturalized U.S. citizens will have improved sources of care. Results show that nativity, duration and citizenship do affect the type of

regular medical care utilized. Together, the influence of nativity, duration and citizenship elucidate some of the differentials in sources of regular source of care among Hispanic sub-groups in comparison to Non-Hispanic whites. Comparing Model 1 to Model 5, some improvements are made in decreasing the likelihood that Non-Hispanic whites will have greater access to a private doctor over other types of care in comparison to the Hispanic subgroups. The models show, however, that not all disparities are explained. The models also attract attention to the differences existing among Hispanic sub-groups in sources of regular health care.

Model 6 includes socioeconomic status indicators, including education, household income, and employment status. The SES variables display patterns that are consistent with expectations. As household income increases, the less likely the odds that one responds that the usual source of care is not a private doctor's office. The pattern is virtually the same for education.

The inclusion of these variables noticeably alters the relationship between race/ethnicity, duration, citizenship and reports of sources of medical care, but do not wholly eradicate the inequalities. This indicates that while socioeconomic status indicators do play a role in the types of regular source of health care reported, there are other factors that influence access to care. The change in coefficients from Model 5 to Model 6, however, illustrate the remarkable gains are made in decreasing the likelihood that Non-Hispanic whites will report a private doctor as their usual source of care over Hispanic subgroups. Model 6 shows that all immigration status categories where the foreign-born respondents are naturalized, regardless of duration tenures, there are no

longer significantly different in reporting one source of care over another in comparison to those native-born respondents. Foreign-born immigrants in the United States less than five years who have not naturalized are now 2.63 times more likely than the native-born to report a clinic as their usual source of medical care relative to the use of a private medical doctor. In comparison, non-naturalized immigrants in the U.S. for five to nine years are 2.4 times more likely than the native-born to report relying on a clinic relative to the use of a private doctor while those immigrants in the country ten or more years who are not citizens are just 63% more likely than the native-born to report a clinic as their primary source of medical care.

Non-citizens in the U.S for less than five years and those in the country five to nine years are, respectively, 2 times and 2.3 times more likely than native-born to report the emergency room as their usual source of medical care in relation to their use of a private doctor's office. Those non-citizens in the country more than ten years are 45% more likely than the native-born to rely on the E.R. as a private doctor's office. Immigrants who have not naturalized and have been in the U.S for less than five years are 3.2 times as likely to recount Other Medical Facility as their regular source of medical care as compared to the native-born. Non-citizens in the country between five and nine years are 3 times as likely to rely on Other than a private doctor's office as their usual source of medical care while those non-naturalized foreign born respondents in the country ten or more years are not significantly different than the native born in their sources of care.

With the controlling of SES indicators, Mexican Americans are now 41% more likely than Non-Hispanic whites to report Clinic, and 55% more likely than Non-Hispanic whites to report the Emergency Room, as their primary source of health care relative to a private doctor's office. Puerto Ricans are 2 times more likely than Non-Hispanic whites to report the clinic as their usual source of medical care relative to their use of a private doctor. In addition, Puerto Ricans are now only 3 times more likely than Non-Hispanic whites (in comparison to over 5 times more likely in the previous model) to report the emergency room as their source of medical care compared to a private doctor's office. Other Hispanics are 38% and 2 times more likely than Non-Hispanic whites to account Clinic and Emergency Room, respectively, as their source of usual medical car. Non-Hispanic blacks are still more likely to report a clinic and emergency room as their usual source of care as compared to Non-Hispanic whites. Mexican Americans remain as the only group more likely than Non-Hispanic whites to report Other Medical Facility as their usual source of medical care relative to a private doctor.

Hypothesis 4 stated that controlling for socioeconomic status indicators would decrease the odds of reporting clinic, emergency room and other medical facility relative to the use of a private doctor's office between race/ethnic groups. Specifically, non-Hispanic sub-groups will have decreases in the inequality in sources of care between themselves and Non-Hispanic whites once socioeconomic status indicators are controlled. This hypothesis is strongly supported, as shown in Model 6.

Model 7 builds on Model 6 by including a measure of insurance. Insurance has long been considered a decisive requirement to accessing the U.S. medical system and

research has shown the impressive variation in insurance coverage by race/ethnicity (Thamer 1997; Zuvekas and Weinick 1999). Insurance does dramatically alter the access to care differentials for the citizenship and duration indicators. Like the previous model, we again see that all naturalized respondents, regardless of duration tenures, are not significantly different in reporting one source of care over another in comparison to those native-born respondents. The non-naturalized categories have altered noticeably with the inclusion of insurance measures. Those foreign born immigrants in the U.S. less than five years who have not naturalized are 2.42 times more likely than the native-born to report a clinic as their usual source of medical care relative to their use of a private medical doctor. In comparison, non-naturalized immigrants in the U.S. for five to nine years and ten years plus are 2.16 times and 54% more likely, respectively, than the native-born to report clinic as their primary source of medical care relative to their use of a private doctor's office.

Non-citizens in the U.S for less than five years and five to nine years are now 75% and 90% more likely than the native-born (in comparison to over 2 times and 2.3 times, respectively, in the previous model) to report the emergency room as their usual source of medical care relative to their use of a private doctor. Those non-citizens in the country more than ten years are now no longer significantly different in reporting the use of E.R. as the usual source of care in comparison to the native-born.

Immigrants who have not naturalized and have been in the U.S for less than five years are 2.7 times as likely than the native-born to recount Other Medical Facility as their place of primary care as compared to reporting a private doctor's office. Non-

citizens in the country between five and nine years are now only 2.36 times as likely than the native-born to report other as their usual source of medical care relative to a private doctor. Those non-naturalized foreign born respondents in the country ten or more years are not significantly different than the native born in their sources of care.

Somewhat surprisingly, controlling for insurance does not completely eliminate the differences in source of usual medical care for Hispanic subgroups. Mexican Americans are still 33% and 36% more likely than Non-Hispanic whites to report clinic and the emergency room, respectively, as the usual source of medical care in comparison to a private doctor's office. Puerto Ricans are just over 2 times more likely than Non-Hispanic whites to recount clinic as their place of primary care as compared to stating a private doctor's office. In contrast, the emergency room is 3.7 times more likely to be reported by Puerto Ricans than Non-Hispanic whites as their source of care relative to a private doctor. Other Hispanics are 34% more likely than Non-Hispanic whites to state a clinic as the usual source of care, and 2.5 times more likely than the reference to name an emergency room, relative to a private doctor's office. Non-Hispanic blacks continue to differ from Non-Hispanic whites in naming clinics and E.R.s as their usual source of medical care over a private doctor's office.

Model 8 builds on the previous model by including a measure of health status. The inclusion of health status into the models does virtually nothing to the previous odd ratios reported in Model 7. The immigration status variables are hardly altered and it would be repetitive to detail the odds ratios here. In the full model, Mexican Americans are still 33% and 35% more likely than Non-Hispanic whites to report clinic and the emergency

room, respectively, as the usual source of medical care relative to a private doctor's office. Puerto Ricans are now just 14% more likely to recount clinic as their place of primary care relative to a private doctor's office as related to Non-Hispanic whites. In addition, Puerto Ricans are still 3.7 times more likely than Non-Hispanic whites to report the emergency room as their source of care as compared to a private doctor's office. Other Hispanics are 24% more likely than Non-Hispanic whites to state a clinic as the usual source of care, and still 2.5 times more likely than the reference to name an emergency room, relative to a private doctor's office. Non-Hispanic blacks continue to differ from the reference in naming clinics and E.R.s as their usual source of medical care over a private doctor's office.

These models have explored the sources of regular medical care for a variety of Hispanic subgroups in relation to Non-Hispanic whites and blacks. It also explored the often-overlooked immigration status variables of nativity, duration and citizenship and how this affects the types of medical care that is accessed. Under the full model, Mexican Americans, Puerto Ricans and Other Hispanics are all less likely than Non-Hispanic whites to report relying on a private doctor's office than other types of care. In other words, all of these minority groups are more likely than Non-Hispanic whites to report the use of a clinic and the emergency room as compared to a private doctor as their source of regular medical care. In addition, the differences are very wide.

In addition, the models illustrated the role immigration plays in influencing access to a regular source of care. As duration in the United States increases, inequalities in the

odds of reporting clinic, emergency room and other medical facility relative to the use of a private doctor's office between race/ethnic groups declines.

Full Model by Race/Ethnicity

The full model was run for each race/ethnic group to determine if the predictor variables worked differently for each group (Hummer et al 1999). Significance tests (Clogg et al 1995; Musick personal communication) are run to test across groups; specifically each variable is tested against the reference of Non-Hispanic whites. See Table 5.2 for results. Due to cell size concerns, all Hispanics race/ethnic – Mexican Americans, Puerto Ricans and Other Hispanics – were combined into a single race/ethnic group to allow the full model to be run. This category is referred to as 'All Hispanics'. In addition, duration and citizenship categories are *not* combined into a single immigration measure in the separate race/ethnic models.

While the table clearly shows that the significance of variables varies between race/ethnic groups, significance tests illustrate that only a few categories are significantly different between race/ethnic groups and Non-Hispanic whites. In reporting clinic over a private doctor's office in small urban areas, All Hispanics are significantly different from Non-Hispanic whites. Among All Hispanics, those in small urban areas are no more likely to report a clinic as their source of usual care relative to a private doctor in comparison to those living in a large urban area. In contrast, among Non-Hispanic whites, those living in a small urban area are over 2 times more likely to report a clinic as their source of usual care relative to a private doctor in comparison to those living in a large urban area. In

addition, among All Hispanics, those with a high school degree are more likely to report a clinic as their source of usual care relative to a private doctor in comparison to those with college degree. In contrast, among Non-Hispanic whites, those with a high school degree are no more likely to report the clinic as their usual source of care relative to a private doctor's office as those with a college degree.

These models have explored access to a regular source of care separately for each race/ethnic group to determine if the predictor variables worked differently across groups. In essence, this research finds that the variables of interest seem to work the same for each race/ethnic group.

Sources of regular health care vary tremendously between race/ethnic groups. Mexican Americans, Puerto Ricans, Other Hispanics and Non-Hispanic blacks are all much more likely to report a clinic and an emergency room as their usual source of regular care in comparison to Non-Hispanic whites. This research illustrates that aggregating Hispanics into a single group conceals the diversity that exists within this population in their sources of medical care. In addition, nativity, duration and citizenship contribute greatly to the incorporation of various Hispanic groups into the U.S medical system. The odds of reporting a private doctor as the regular source of care increase as incorporation into the United States increases. This research has taken into account the 'direction' of Hispanic individuals towards the U.S. core culture and illustrates the important role immigration status plays in sources of care. Foreign-born individuals have greater odds of a better source of care with increased duration in the United States as well as naturalization.

The following chapter will turn to the child sample and explore access to medical care among children.

Chapter Six
ACCESS TO A REGULAR SOURCE OF HEALTH CARE AMONG CHILDREN

Chapter 6 focuses on differences in access to a regular source of health care for children among major Hispanic sub-populations of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, citizenship, length of time lived in the United States, and socioeconomic factors. These analyses rely on data from the National Health Interview Survey and utilize logistic regression. Table 6.1 presents logistic regression coefficients, in the form of odds ratios, and displays the association between race/ethnicity and access to a regular source of medical care under the context of a range of different models. Odds ratios below one indicate decreased chances of having access to a regular source of medical care in comparison to the reference group; values above one indicate a greater chance of having access to medical care in relation to the reference group.

Model 1 investigates the basic relationship between race/ethnicity and access to a usual source of health care, which tests hypothesis one (see pages 46) . The results show that Mexican American children clearly experience the lowest odds of having access to a usual source of health care, as they have almost 81% lower odds of usual care than Non-Hispanic whites. Other Hispanics are the only other Hispanic sub-group that are significantly different from the reference, as they are 61% less likely to report access to a usual source of care than Non-Hispanic whites. Cuban and Puerto Rican children are not significantly different in reporting access to a usual source of medical care from Non-

Hispanic whites. Non-Hispanic blacks are 37% less likely to report having a usual access to care than Non-Hispanic whites.

The patterns of access to a regular source of medical care among different Hispanic groups are overall consistent with previous literature which indicates that Hispanic groups have less access to care (Scott and Ni 2004; Zuvekas and Weinick 1999; Hubbell et al 1991; Trevino et al 1991). Hypotheses One declared that there will be basic race/ethnic differences in access to medical care, without controlling for nativity, duration and citizenship status. However, I find that Puerto Ricans and Cubans are not significantly different from Non-Hispanic whites in regards to usual source of medical care without taking into consideration nativity, duration and citizenship influences. The lack of significance of usual access to care among Puerto Ricans is somewhat surprising in light of research that has documented the extremely low socioeconomic and health profiles of this subpopulation. The lack of difference between Cubans and non-Hispanic whites in terms of a regular source of medical care is not as surprising. The high socioeconomic status of Cubans is well documented (Bean and Tienda 1988) and this may well explain their increased access to a regular source of medical care.

Model 2 controls for basic demographic precursors in the relationship between race/ethnicity and access to a regular source of health care and these model additions do have some impact on the results. These results also show that Mexican Americans are now 25% as likely to report having a usual source of medical care as Non-Hispanic whites. Puerto Ricans join Mexican Americans in being significantly different than non-Hispanic whites, as they are 51% less likely to report having access to care in relation to

the reference group. Cuban children are again not significantly different from Non-Hispanic whites. Other Hispanics are 61% less likely to report usual access to care in comparison to the reference while Non-Hispanics blacks are 78% as likely to report access to care as Non-Hispanic whites.

Model 3, 4 and 5 introduce nativity, duration and citizenship, allowing for a test of the impact of immigration status on reports of usual access to medical care within the United States. Model 3, which considers race/ethnicity and nativity, shows that children with foreign-born mothers have almost 57% lower odds of access to a regular source of medical care than US-born individuals. Interestingly, all of the racial/ethnic differentials change considerably from the previous model. Specifically, with mother's nativity in the model, the odds of access to a usual source of medical care increases for all Hispanic child sub-groups compared to Non-Hispanic whites. This increase demonstrates that mother's nativity plays a vital role in the racial/ethnic differentials in access to a regular source of care in the United States. However, the nativity status of the mother does not eliminate all differentials in access to care between Hispanic groups and Non-Hispanic whites. Mexican Americans are still 60% less likely to have access to a regular source of health care. Cubans again re-join Puerto Ricans as not being significantly different from the reference group in access to medical care. Other Hispanics are 34% less likely to report access as compared to Non-Hispanic whites. Non-Hispanic blacks are 80% as likely as Non-Hispanic whites in reporting a regular source of medical care. Nativity status of the mother is a significant factor to explaining differentials in access to a usual

source of care among race/ethnic child groups, but it does not completely explain away the existing differences.

Model 4 attempts to be more specific in accounting for the nativity effect that seems to contribute so crucially to care coefficients for various Hispanic groups in comparison to Non-Hispanic whites. Duration, or the length of time foreign-born mothers have been in the United States, is now included, and is referenced against those who have U.S. born mothers. Indeed, length of duration among immigrant mothers in the United States increases the odds of reporting a usual source of access to medical care for their children. While children with immigrant mothers that have been in the U.S. less than five years are 18% as likely to report access to a usual source of care in comparison to U.S. born persons, children with mothers that have been in the U.S. from five to ten years are 43% as likely to report having a usual source of care in comparison to the reference group. Further, immigrant mothers that have been in the country for ten years or more have children that are still significantly different from the children with U.S. born mothers: they are 65% as likely to have access to a usual source of care. Consequently, more so than a simple nativity measure, access to a usual source of care for children is associated with length of time their immigrant mothers have spent in the United States. This supports Hypothesis Two which stated that as immigrants acculturate into the United States, they will come closer to reflecting the medical care access patterns of Non-Hispanic whites. The longer foreign-born mothers have been in the U.S., the greater their children's chances of reporting having access to a regular source of health care.

Duration also has an impact on differentials in having access to a usual source of care across race/ethnic groups. Mexican Americans are 65% less likely to have access to a regular source of medical care while Puerto Ricans return to being significantly less likely (37%) to report access to a regular source of care than Non-Hispanic whites. Cuban children are no different in reporting access to care than Non-Hispanic whites. Other Hispanics are now 59% less likely to report access to a regular source of care than Non-Hispanic whites. Non-Hispanic Blacks are 21% less likely than Non-Hispanic whites in reporting access to medical care.

The analysis continues by including citizenship status in the model. Model 5 combines citizenship status of the mother with duration and shows that children with non-citizen mothers in the country less than five years are 83% less likely to report access to a usual source of care than those children with native-born mothers. In comparison, children with naturalized foreign-born mothers in the country less than five years are 77% less likely to report access to a usual source of care in comparison to the children of native-born mothers. Those children of foreign-born mothers who have been in the country between five and nine years and are not citizens are 57% as likely to report having access to a usual source of care while those children with mothers in the country for the same tenure (five to nine years) but who are citizens are 39% as likely in reporting access to a usual source of care than those that are native born US citizens. Children with foreign born mothers who are non-citizens who have been in the United States ten or more years are still significantly less likely to have access to a usual source of care, as these children are 55% less likely to report access to medical care. Children with

naturalized foreign-born mothers who have been in the U.S. for more than ten years, however, report no difference in having access to a usual source of medical care as US born citizens.

The results show that as groups further acculturate into the United States, the more likely they are to reflect the same access to care patterns as the Non-Hispanic white children. These results support the hypothesis that that the immigration status variables will affect the access to care of the Hispanic populations. Hypothesis two argued that as foreign born respondents acculturate to the United States, as measured by duration and citizenship, there would be an increase the likelihood of reporting access to a regular source of care. Model five supports this hypothesis. Individual with greater incorporation into the United States are more likely they are to reflect the same access to care patterns as the native-born. As duration and citizenship measures demonstrate greater inclusion into the United States (from initial duration and non-citizen all the way to ten or more years and citizen), the inequalities in access to a usual source of medical care decrease. I again note that my data are, indeed, not longitudinal and thus I am not following individuals as they acculturate *overtime*. Nevertheless, these results provide intriguing cross-sectional evidence that immigration status variables greatly affect the access to care of the Hispanic populations.

Controlling for citizenship status, in combination with duration, does not result in dramatic improvement in access to a regular source of health care for Hispanic subgroup children. Mexican Americans now show 64% lower odds in having a usual source of care and Puerto Ricans display 42% lower odds of access to usual care in comparison to Non-

Hispanic whites. Cuban children are still no less likely to report a regular source of care than the reference group. Other Hispanics are 60% as likely to report access to a regular source of care than Non-Hispanic whites. The lack of large change from model 4 to model 5 illustrates that mothers' citizenship plays a relatively minor role in explaining access to care differentials across Hispanic subgroups, at least above and beyond the influences of nativity and duration.

Hypothesis two posed that the immigration status measures of nativity, duration and citizenship status will affect the access to care of the Hispanic population. Specifically, children of native-born Hispanics, children with mothers that have increased duration in the United States, and children with naturalized U.S. citizen mothers will have greater access to health care. Results show that nativity, duration and citizenship do affect access to care. Together, the impact of nativity, duration and citizenship explain some of the differentials in access to a regular source of care among Hispanic sub-groups in comparison to Non-Hispanic whites. Comparing Model 1 to Model 5, noteworthy gains are made in decreasing the likelihood that Non-Hispanic whites will have greater access to care than Hispanics. The models show, however, that all disparities are not explained and also draw attention to the continued differences existing among Hispanic sub-groups in having access to a regular source of health care, even net of demographic and immigration status factors.

Model 6 includes socioeconomic status indicators, including education of the mother and household income. The SES variables exhibit patterns that are expected. Those children with mothers with less education than the reference group of sixteen plus

years of education have lower odds of access to a regular source of care. Those households with less than $35,000 have lower odds of access to a regular source of medical care. That is, children living in households with less money are less likely to report access to a regular source of medical care.

The inclusion of these variables alters the relationship between race/ethnicity, duration, citizenship and reports of access to a usual source of medical care, but does not enough to completely erase the inequalities. This denotes that while a mother's socioeconomic status indicators are a factor in a child having a regular source of health care, there are other aspects that influence access to care. Children with non-citizen mothers in the country less than five years are 77% less likely to report access to a usual source of care than U.S. born citizens. In comparison, children with foreign-born mothers in the country less than five years but are citizens are only 69% less likely to report access to a usual source of care in comparison to children of native-born mothers. Those children that have immigrant mothers in the country between five and nine years and are not citizens are now 41% as likely to report having access to a usual source of care. Children with mothers who have been in the country for the same tenure but are citizens, in comparison, are 63% as likely to report having access to a usual source of care. Those children with non-citizen mothers who have been in the United States ten or more years are still significantly less likely to have access to a usual source of care, as they are 26% less likely to report access to medical care. Children with mothers who are citizens and have been in the U.S. ten or more years are not different in reporting access to a usual source of care than those that are native born US citizens.

With the inclusion of SES indicators in the model, Mexican Americans are still 44% less likely to have access to medical care as Non-Hispanic whites. Puerto Rican children (as well as Non-Hispanic blacks) again join Cubans as being no different than the reference group in reporting access to a regular source of care. As suggested in the previous chapters, this may be due to a reliance on emergency room (E.R.). There could be a propensity for Puerto Ricans, highly concentrated in urban areas, to perceive the E.R. as a "regular source of care". Other Hispanic children are 27% less likely to have access to care.

The SES indicators clarify much of the differentials in access to a regular source of care among Hispanic sub-groups in comparison to Non-Hispanic whites. Comparing Model 1 to Model 6, noteworthy improvements are made in decreasing the probability that Non-Hispanic whites will have greater access to care than Hispanics. The models show, however, that all disparities are not explained and also draw attention to the differences continuing to exist between Hispanic subgroups.

Hypothesis 4 stated that socioeconomic status indicators would be expected to decrease the access to health care inequalities between race/ethnic groups. Specifically, Hispanic sub-groups will have decreases in the inequality in access to care between themselves and Non-Hispanic whites once socioeconomic status indicators are controlled. This hypothesis is supported, as shown in Model 6.

Model 7 builds on Model 6 by including health insurance measures. Insurance has long been considered a crucial necessity to accessing the U.S. medical system and research has shown the dramatic inequalities in insurance coverage by race/ethnicity

(Scott and Ni 2004). Insurance does dramatically alter the access to care differentials for the citizenship and duration indicators. The only immigration categories that report significant differences in access to a regular source of medical care are those children with foreign-born mothers in the country less than five years, regardless of citizenship status. Access to a regular source of health care for children of non-citizen mothers in the United States less than five years is not markedly different than the previous model, as they are 28% as likely to report access than children of native-born mothers in this most complete model. Children of foreign-born citizens in the US for the same amount of time are 33% as likely to report having access to a regular source of care. The remainder of the citizenship-duration categories is no different in reporting access to a regular source of medical care than the reference.

Somewhat surprisingly, controlling for insurance does not completely eliminate the gap for Mexican Americans in comparison to Non-Hispanic Whites. In comparison, however, controlling for insurance does alter the findings for Other Hispanics, as they now are no longer different than Non-Hispanic whites in reporting access to a regular source of medical care. Mexican American children are still only 64% as likely to have access to care as Non-Hispanic whites. The remainder of the ethnic groups, Puerto Ricans, Cuban Americans, Other Hispanics and Non-Hispanic blacks, report no difference in accessing a regular source of medical care in comparison to the reference.

Model 8 builds on the previous model by including a measure of health status. While less healthy children tend to report greater access to care, the inclusion of health status into the models does virtually nothing to the previous odd ratios reported in Model

7. The immigration status variables are slightly altered, as those children of non-citizen mothers in the country between five and nine years are now 72% less likely to report having access to a regular source of care in comparison to the reference while children of naturalized mothers in the country less than five years are 66% less likely to report having access to medical care. Mexican Americans are still 64% as likely to report having access to a usual source of medical care. The remainder of the ethnic groups, Puerto Ricans, Cuban Americans, Other Hispanics and Non-Hispanic blacks, again report no difference in accessing a regular source of medical care than the reference.

These models have explored the access to a regular source of care for a variety of Hispanic children subgroups in relation to Non-Hispanic white and black children. It also explored the often-overlooked immigration variables of nativity, duration and citizenship. Under the full model, only Mexican American children were less likely to report having a usual source of medical care in comparison to Non-Hispanic white children. In addition, the models illustrated the role of the mother's immigration status plays in influencing access to a regular source of care. As duration of the immigrant mother in the United States increases, the odds of a child reporting access to a regular source of care increase. In addition, the citizenship status of the foreign born mother also enhances the odds of reporting access to a usual source of care.

Full Model by Race/Ethnicity

The full model was run for each race/ethnic group to determine if the predictor variables worked differently for each group (Hummer et al 1999). Significance tests

(Clogg et al 1995; Musick personal communication) are run to test across groups; specifically each variable is tested against the reference of Non-Hispanic whites. See Table 6.2 for results. Due to cell size concerns, Cubans had to be combined with Other Hispanics to allow the full model to be run.

While the table clearly shows that the significance of variables varies between race/ethnic groups, significance tests illustrate that only a few categories are significantly different between race/ethnic groups and Non-Hispanic whites. The only significant differences between Non-Hispanic whites and other groups are in country region. Both Puerto Ricans and Cubans/Other Hispanics residing in the South are significantly different from Non-Hispanic whites. These models have explored access to a regular source of care separately for each race/ethnic group to determine if the predictor variables worked differently across groups. In essence, this research finds that the variables of interest seem to work the same for each race/ethnic group.

In the full model, access to a regular source of care varies tremendous between numerous Hispanic groups. Only Mexican American children are less likely to report access to a regular source of care in comparison to Non-Hispanic whites. In comparison, Puerto Ricans, Cuban Americans and Other Hispanics are not significantly different from Non-Hispanic whites in reporting access to a regular source of care. This differs slightly from the adult analyses, where results illustrated that Mexican Americans and Other Hispanics are less likely to report access to care. .In comparison, in the adult sample, Cuban Americans are not significantly different from Non-Hispanic whites in reporting

access to a regular source of care while Puerto Ricans are more likely to report access to a regular source of care.

This research illustrates that aggregating Hispanics into a single group conceals the significant diversity that exists within the child population in accessing a regular source of medical care. In addition, the nativity, duration and citizenship status of the mother contributes greatly to the incorporation of various Hispanic groups into the U.S medical system. The odds of reporting access to a regular source of care increase as the mothers' incorporation in the United States continues. This research illustrates that as a mother incorporates into the U.S. (immigrates to the United States, spends longer time in the United States and naturalizes as a U. S. citizen) their children have a greater odds of having access to a regular source of care.

The following chapter will further explore types of care. Specifically, it will isolate those children reporting having access to a regular source of care and probe the relationship between race/ethnicity and source of care (private doctor, clinic, emergency room or other).

Chapter Seven
SOURCES OF REGULAR MEDICAL CARE AMONG CHILDREN

Chapter 7 focuses on differences in sources (or types) of health care for children among major Hispanic sub-populations18 of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, duration and citizenship, as well as democratic precursors and socioeconomic factors. It builds on the previous chapter by further probing those reporting having access to a regular source of care by exploring the source of care they regularly use, be it private doctor, clinic, and emergency room/other. Please note that for this analysis, unlike with the access to care analysis, Puerto Ricans and Cubans will be combined with Other Hispanics due to limited cell sizes. This combined category of Puerto Ricans, Cubans and Other Hispanics is now referred to as `Other Hispanics'. In addition, again due to cell size issues, the duration and citizenship categories are *not* combined into a single immigration measure in the separate race/ethnic models.

These analyses rely on data from the National Health Interview Survey (1999-2001) and utilize multinomial logistic regression. Table 7.1 presents multinomial logistic regression coefficients, in the form of odds ratios, and displays the association between race/ethnicity and sources of regular health care under the context of a range of different models. Odds ratios above one indicate a greater chance of using a particular source of care relative to the use of a private doctor's office; those below one indicate decreased chances of using a particular source of care relative to the use of a private doctor's office.

[18] For Sources of Care, Cubans and Puerto Ricans will be combined with Other Hispanics due to cell size issues.

Model 1 explores the baseline relationship between race/ethnicity and sources of health care, which assesses the hypothesis that there will be basic race/ethnic differences in the sources of medical care, without controlling for nativity, duration and citizenship status. The results show Mexican American children, as compared to Non-Hispanic whites, are 2.90 times more likely to report using a clinic as their usual source of health care relative to their use of a private doctor's office. In comparison, Other Hispanics are 2.29 times more likely, as compared to Non-Hispanic whites, to report using a clinic as their usual source of health care relative to their use of a private doctor's office. Non-Hispanic blacks are only 2.07 times more likely than Non-Hispanic whites to report using a clinic in relation to their use of a private doctor's office.

The odds ratios increase tremendously for the use of emergency rooms as the usual source of care for all minority groups in relation to Non-Hispanic whites. Mexican Americans and Other Hispanics are 3.97 and 6.06 times more likely than Non-Hispanic whites, respectively, to report the use of the E.R. as their usual source of care relative to their use of a private doctor's office. Non-Hispanic blacks, as compared to Non-Hispanic whites, are 5.77 times more likely to report the emergency room as their usual source of care.

In regards to those who report `Other Medical Facility' as their usual source of care, Mexican Americans have 2.13 greater odds to report other as compared to their use of a private doctor's office. In contrast, Other Hispanics and Non-Hispanic blacks are not

significantly different from Non-Hispanic whites in reporting other as their usual source of care relative to a private doctor.

The patterns seen here for sources of medical care reported among different Hispanic groups are largely consistent with proposition previously made. Hypotheses One stated that there would be basic race/ethnic differences in the sources of medical care, without controlling for nativity, duration and citizenship status. I find that both Hispanic subgroups, in comparison to Non-Hispanic whites, are much more likely to report clinics and emergency rooms as their primary source of care as compared to NonHispanic whites in use of a private doctor's office. Mexican Americans are also more likely to report the use of `Other' as their regular source of care in comparison to NonHispanic whites relative to the use of a private doctor. Thus, there are major differences across groups in reporting *sources* of regular access to health care.

Model 2 controls for basic demographic precursors in the relationship between race/ethnicity and sources of regular source of health care and these model additions have a key effect on the results. Specifically, the addition of the demographic precursors into the model *increases* the odds that Hispanic subgroups, relative to Non-Hispanic whites, are more likely to report the use of clinic but *decreases* the odds that Hispanic subgroups are more likely to report the use of the emergency room as their primary source of care as compared to a private doctor's office.

The results show Mexican American children are now 3.07 times more likely than to Non-Hispanic whites to report using a clinic as their usual source of health care

relative to their use of a private doctor's office, while Other Hispanics are 3.10 times more likely than Non-Hispanic whites to do the same. Further, Non-Hispanic blacks are 2.26 times more likely than Non-Hispanic whites to report using a Clinic in relation to their use of a private doctor's office.

Mexican Americans have 3.63 greater odds than Non-Hispanic whites of reporting the use of an emergency room as the usual source of medical care relative to their use of a private doctor. Other Hispanics are 5.76 times more likely than NonHispanic whites to report using an emergency rooms as the primary source of medical care. In addition, Non-Hispanic blacks are 4.96 times more likely than Non-Hispanic whites to report the emergency room as their usual source of care. No race/ethnic group is significantly different from Non-Hispanic whites in reporting other as their usual source of care relative to a private doctor's office.

Model 3, 4 and 5 introduce the nativity, duration and citizenship status of the mother, allowing for a test of the impact of immigration status on sources of regular medical care within the United States. Model 3, which considers race/ethnicity and nativity, shows that children of foreign-born mothers are almost 79% more likely than native-born individuals to report using a clinic as their usual source of health care relative to their use of a private doctor's office. In comparison, children of immigrant mothers are 85% more likely than the native-born to report emergency room and other as their usual source of health care relative to their use of a private doctor's office while children of foreign-born mothers, as compared to children of native-born mothers, are no different in

reporting other relative to a private doctor's office. The results here clearly show that the nativity status of the mother influences the source of medical care for children that is regularly accessed in the United States. These results support Hypothesis Two, which stated that the native-born would be less likely than foreign born to report the uses of clinics, emergency rooms and other medical facilities relative to their use of private doctor's office as their regular source of care.

Interestingly, all of the racial/ethnic differentials change considerably from the previous model. Specifically, with nativity in the model, the differences between sources of medical care utilized by all Hispanic sub-groups as compared to Non-Hispanic whites decrease. This decrease reveals that the immigration status of the mother has a key influence on racial/ethnic differentials of children in the type of medical care regularly used in the United States. That is to say, the "less favorable" sources of medical care (private doctor being considered the most favorable) among most Hispanic groups relative to Non-Hispanic whites in comparison to Model 2 is strongly influenced by nativity. Mexican Americans are now 2.29 times more likely than Non-Hispanic whites to report using a clinic as a private doctor as the usual source of care as relative to a private doctor. Others Hispanics are also 2.29times more likely than Non-Hispanic whites to utilize a clinic rather than a private doctor as their usual source of medical care. In comparison, Non-Hispanic blacks, as compared to Non-Hispanic whites, are 2.21 times more likely to report clinic as the primary source of medical care, relative to using a private doctor.

Mexican Americans are 2.65 times more likely than Non-Hispanic whites to

report using an emergency room as their source of care, while Other Hispanics are still over 4 times more likely than Non-Hispanic whites to rely on an E.R. Non-Hispanic black children now have 4.82 greater odds of reporting the emergency room as their primary source of medical care compared to Non-Hispanic whites. Thus, nativity is important in explaining differentials in sources of medical care across race/ethnic groups, but it does not completely explain away the existing inequalities.

Model 4 attempts to be more specific in conveying the nativity effect that seems to contribute to source of care differentials for various Hispanic groups in comparison to Non-Hispanic whites. Duration, or the length of time foreign-born mothers have been in the United States, is now included, and is referenced against those children who are U.S. born. Length of duration among immigrant mothers in the United States slightly affects the primary source of medical care but is not a crucial component to understanding differentials between children of different race/ethnic groups. Model 4 shows that children of foreign-born mothers who have been in the U.S. less than five years are 3.24 times more likely to report using a clinic (relative to their use of a private doctor) as compared to those who are children of native-born mothers. In comparison, children of foreign-born mothers, as compared to children of native-born mothers, in the country five to nine years are 3.16 times more likely to report utilizing a clinic, while those children of foreign-born mothers in the U.S. ten years are 37% more likely to report using a clinic in relation to a private doctor.

Children of foreign-born mothers who have been in the U.S. less than five years are 4.88 times more likely to report using the E.R. relative to their use of a private doctor as compared to those children of native-born mothers. As for children of immigrant mothers in the country five to nine years, they have 3.12 greater odds than the native born of reporting emergency room as compared to the use of a private doctor. Children of immigrant mothers in the U.S. ten or more years are 47% more likely to report the use of the E.R. in comparison to the children of native-born mothers.

Children of immigrant mothers in the country less than five years are over 6 times more likely than children of native-born mothers to report using other medical care relative to a private doctor while children of foreign-born mothers in the United States between five and nine years are 3.25 times more likely than children of native-born mothers to report using other. Children of immigrant mothers in the country ten years or more are no different than the reference to report using other medical care relative to a private doctor.

As immigrant mothers acculturate to the United States (again, acculturate here being defined as increased time in the U.S.), the differences in sources of medical care for their children, as compared to the children of native-born mothers, decreases. As a result, more so than a simple nativity dichotomy, the type of regular care for children of immigrant mothers is strongly associated with the length of time these mothers have spend in the United States. This substantiates Hypothesis Two which declared that as immigrants acculturate into the United States, they will come closer to imitate the sources of medical care patterns of the native-born. The longer foreign-born persons have been in

the U.S., the greater their chances of reporting the same source of medical care as the native born.

Duration does not seem to impact on differentials in the category of medical care across race/ethnic groups. Mexican Americans are 2.38 more likely than Non-Hispanic whites to report the use of a clinic relative to their use of a private doctor. Other Hispanics are 2.39 times more likely than Non-Hispanic whites to rely on a clinic over a private doctor, while Non-Hispanic blacks are 2.23 times more likely compared to Non-Hispanic whites to report the use of a private doctor.

Emergency room differences between the race/ethnic groups still strongly remain. Mexican Americans and Other Hispanics are 2.6 and 4.13 times more likely, respectively, than Non-Hispanic whites to report the use of an emergency room as the regular source of care relative to the use of a private doctor. Non-Hispanic blacks, as compared to Non-Hispanic whites, are 4.85 times more likely to use the E.R. In regards to responding other medical facilities, no race/ethnic group is significantly different than Non-Hispanic whites.

The analysis continues by including the citizenship status'[8] of the mother in the model. Model 5 shows that children of non-citizen are significantly different in the sources of care they report. Children of non-naturalized foreign born mothers are 2.06 times more likely than children of citizens to report using a clinic relative to a private doctor. In addition, children of non-naturalized mothers are 51 % more likely and 3.72 times more likely than children of the native-born to report using the Emergency Room

and Other Medical Facility, respectively, relative to their use of a private doctor as their type of regular health care.

Controlling for the citizenship status of the mother results in changes in the sources of medical care within the distinct duration categories. Children of immigrant mothers in the U.S. for less than five years continue to report significant differences in their sources of care. They are 75% and 3.45 times more likely than the children of native-born mothers to report the use of the clinic and the E.R., respectively, as the source of medical care relative to a private doctor. Children of immigrant mothers in the U.S. for five to nine years also report significant differences in their sources of care; however we see a substantial decrease in the odds as compared to the previous model. Children of foreign-born mothers in the U.S. between five and nine years are 81% and 2.29 times more likely than the reference to report the use of an E.R. or other, respectively, as the source of medical care relative to a private doctor. Once controlling for citizenship status of the mother, children of foreign-born mothers in the country ten years or more are not significantly different than children of native-born mothers in reporting their sources of care.

The results support my hypothesis that immigration variables will affect the sources of regular health care of the Hispanic populations. Hypothesis two argued that as children of foreign born mothers acculturate to the United States, as measured by duration and citizenship, there would be an increase in the likelihood of reporting a private doctor as the source of regular health care. Model five supports this hypothesis. Children of mothers with greater incorporation into the United States are more likely to reflect the

same sources of care patterns as children of native-born mothers. As the duration and citizenship measures indicate an "escalation" of the Americanization of Hispanic groups (from initial duration and non-citizen up to ten or more years in the United States and naturalized), the disparities in the usual source of medical care diminish. As noted earlier, the data are, indeed, not longitudinal; regardless, these results provide solid cross-sectional substantiation that immigration status does indeed affect sources of medical care.

Controlling for citizenship status, in combination with duration, results in some changes in the sources of medical care reported by the distinct race/ethnic subgroups. Mexican Americans and Other Hispanic are 2.17 and 2.41 times more likely than Non-Hispanic whites, respectively, to report clinic as their regular source of care relative to a private doctor. Non-Hispanic blacks are still 2.22 times more likely than Non-Hispanic whites to report a clinic as their main source of care relative to a private doctor.

In a slight improvement from the previous model, Mexican Americans are 2.51 times more likely than Non-Hispanic whites to report the emergency room as their source of medical care relative to their use of a private doctor's office. Other Hispanics have 4.15 times greater odds of stating the E.R. as their usual source of care relative to a private doctor as compared to Non-Hispanic whites. Non-Hispanic blacks are 4.84 times more likely than Non-Hispanic whites to report the emergency room as the usual source of medical care relative to a private doctor.

Hypotheses two and three posed that the mother's immigration status measures of nativity, duration and citizenship status will affect the sources of care reported by the Hispanic child population. In particular, Hispanics of native-born mothers, those children

with immigrant mothers who have increased duration in the United States, and those children with naturalized mothers will have improved sources of care. Results show that nativity, duration and citizenship of the mother do affect the type of regular medical care utilized. Together, the influence of nativity, duration and citizenship elucidate some of the differentials in sources of regular source of care among Hispanic sub-groups in comparison to Non-Hispanic whites. Comparing Model 1 to Model 5, some improvements are made in decreasing the likelihood that Non-Hispanic white children will have greater access to a private doctor over other types of care in comparison to the Hispanic subgroups. Nonetheless, the models illustrate that all disparities are not explained. The models also attract attention to the differences existing among Hispanic sub-groups in sources of regular health care.

Model 6 includes socioeconomic status indicators, including mother's education and household income. The SES variables display patterns that are consistent with expectations. As household income increases, the less likely the odds that one responds that the usual source of care is not a private doctor's office. The same pattern virtually exists for education rates.

The inclusion of these variables noticeably adjusts the relationship between race/ethnicity, duration, citizenship and reports of sources of medical care, but do not altogether eliminate the inequalities. This indicates that while socioeconomic status indicators do play a role in the types of regular source of health care reported, there are other factors that influence sources of care. The change in coefficients from Model 5 to Model 6, however, illustrate the remarkable gains are made in decreasing the

likelihood that Non-Hispanic whites will report a private doctor as their usual source of care over Hispanic subgroups. Children of non-naturalized mothers, as compared to children of mothers who are U.S. citizens, are 67% more likely to report the clinic as their regular source of care relative to a private doctor. Children of non-naturalized mothers are not significantly different in reporting other types of care relative to a private doctor.

Children of foreign-born mothers in the United States less than five years are now 59% more likely than children of native-born mothers to report a clinic as their usual source of medical care relative to the use of a private medical doctor. In comparison, children of immigrant mothers in the country between five and nine years are 65% more likely than children of native-born mothers to report the clinic as their usual source of care. Children of immigrant mothers in the U.S. ten or more years are not significantly different from children of native born mothers in reporting clinic relative to a private doctor as their source of regular care.

Children of immigrant mothers in the U.S for less than five years and those in the country five to nine years are, respectively, 2.99 and 2.05 times more likely than children of native-born mothers to report the emergency room as their usual source of medical care in relation to their use of a private doctor's office. No other duration category is significantly different.

Controlling of SES indicators also has an impact on differentials in the category of medical care across race/ethnic groups. Mexican Americans are now 50% more likely than Non-Hispanic whites to report clinic, and 65% more likely than Non-Hispanic whites

to report the emergency room, as their primary source of health care relative to a private doctor's office. Other Hispanics are 97% more likely than Non-Hispanic whites to report the clinic as their usual source of medical care relative to their use of a private doctor. In addition, Other Hispanics are now only 3.23 times more likely than Non Hispanic whites (in comparison to over 4 times more likely in the previous model) to report the emergency room as their source of medical care compared to a private doctor's office. Non-Hispanic blacks are still 80% and 3.76 times more likely to report a clinic and emergency room, respectively, as their usual source of care as compared to Non-Hispanic whites.

Hypothesis 4 stated that controlling for socioeconomic status indicators would decrease the odds of reporting clinic, emergency room and other medical facility relative to the use of a private doctor's office between race/ethnic groups. Specifically, Non-Hispanic sub-groups will decrease in the inequality in sources of care between themselves and Non-Hispanic whites once socioeconomic status indicators are controlled. This hypothesis is strongly supported, as shown in Model 6.

Model 7 builds on Model 6 by including a measure of insurance. Insurance has long been considered a decisive requirement to accessing the U.S. medical system and research has shown the impressive variation in insurance coverage by race/ethnicity (Thamer 1997; Zuvekas and Weinick 1999). Insurance dramatically alters the sources of regular health care differentials for the citizenship and duration indicators. Like the previous model, we again see that children of non-naturalized mothers, as compared to children of U.S. citizen mothers, are 52% more likely to report clinic as their source of

regular care relative to a private doctor. Children of non-U.S. citizen mothers are now 2.7 times more likely than children of U.S. citizens to report other as their source of regular care relative to a private doctor.

Children of foreign-born mothers in the United States less than five years are now 50% more likely than children of native-born mothers to report a clinic as their usual source of medical care relative to the use of a private medical doctor. In comparison, children of immigrant mothers in the country between five and nine years are 53% more likely than children of native-born mothers to report the clinic as their usual source of care. Children of immigrant mothers in the U.S. ten or more years are again not significantly different from children of native born mothers in reporting clinic relative to a private doctor as their source of regular care.

Children of immigrant mothers in the U.S for less than five years and those in the country five to nine years are, respectively, 2.77 times and 85% more likely than children of native-born mothers to report the emergency room as their usual source of medical care in relation to their use of a private doctor's office. Children of immigrant mothers in the U.S. ten or more years, as compared to children of native-born mothers, are now 39% more likely to report other relative to a private doctor as their primary source of care. Somewhat surprisingly, controlling for insurance does not completely eliminate the differences in source of usual medical care for Hispanic subgroups. Mexican Americans are still 38% more likely than Non-Hispanic whites to report clinic, as the usual source of medical care in comparison to a private doctor's office. Interestingly, they are now no longer significantly different, as compared to Non-Hispanic whites, in reporting the E.R.

as their usual source of care. Other Hispanics are 83% more likely than Non-Hispanic whites to recount clinic as their place of primary care as compared to stating a private doctor's office. In contrast, the emergency room is 2.82 times more likely to be reported by Other Hispanics than Non-Hispanic whites as their source of care relative a private doctor. Non-Hispanic blacks continue to differ from Non-Hispanic whites in naming clinics and E.R.s (65% and 3.32 times respectively) as their usual source of medical care over a private doctor's office. No race/ethnic group, as compared to Non-Hispanic white, is more likely to report other as their source of regular care relative to a private doctor.

Model 8 builds on the previous model by including a measure of health status. The inclusion of health status into the models does virtually nothing to the previous odd ratios reported in Model 7. The immigration status variables of mother's citizenship status and duration are hardly altered and it would be repetitive to detail the odds ratios here. In the full model, Mexican Americans are still 37% more likely than Non-Hispanic whites to report clinic as the usual source of medical care relative to a private doctor's office. Other Hispanics are 82% more likely than Non-Hispanic whites to state a clinic

as the usual source of care, and still 2.81 times more likely than the reference to name an emergency room, relative to a private doctor's office. Non-Hispanic blacks continue to differ from the reference in naming clinics and E.R.s as their usual source of medical care over a private doctor's office. These models have explored the sources of regular medical care for a variety of Hispanic subgroup children in relation to Non-Hispanic whites and blacks. It also explored the often-overlooked immigration variables of nativity, duration and citizenship and how this affects the types of medical care that is accessed. Under the full model, Mexican Americans and Other Hispanics are all less likely to report relying on a private doctor's office than other types of care in comparison to Non-Hispanic whites. Specifically, Mexican Americans are more likely to report the use of a clinic as compared to a private doctor as their source of regular medical care. Other Hispanics and Non-Hispanic blacks are both more likely than Non-Hispanic whites to report the use of a clinic and the emergency room as compared to a private doctor as their source of regular medical care.

In addition, the models illustrated the role immigration plays in influencing access to a regular source of care. As the duration of the mother in the United States increases and naturalization occurs, the odds of reporting clinic, emergency room and other medical facility relative to the use of a private doctor's office between race/ethnic groups declines. As immigration status variables are taken into account, Hispanic sub-groups will have decreases in the inequality in sources of care between themselves and Non-Hispanic whites.

Unlike with the previous samples, no specific race/ethnic models were run. This is

due to serious problems with cell size issues. The full child sample was broken into three distinct race/ethnic subgroups: All Hispanics, Non-Hispanic Whites and Non-Hispanic blacks. In addition, the immigration status measures were limited to simple nativity and citizenship, with no duration included in the models. Errors were still received in nativity and citizenship variables.

Chapter Eight
CONCLUSIONS

8.1 Review of Objectives

While considerable research on mortality and health differentials across racial/ethnic subpopulations exists, demographic research on *access* to and *sources* of regular medical care among different segments of the population is not as elaborate, especially at the population level (Weinick et al. 2000; LeClere et al. 1994). The investigation into access to and sources of medical care among various Hispanic subgroups remains especially limited. Well established in the literature is the heightened risk of decreased access to medical care among racial and ethnic minorities, with Hispanics substantially more likely than other racial/ethnic groups to lack a usual source of health care (Weinick et al 2000; Zuvekas and Weinick, 1999; Weigers et al 1998). Less clear is the particular role played by various immigration measures – namely nativity, duration and citizenship – on accessing a regular source of medical care and the types of medical care for Hispanic groups. This dissertation sought to fill this void by examining differences in access to and sources of health care of both adults and children among major Hispanic sub-populations of the United States in comparison to non-Hispanic Whites and Blacks, while considering the influences of nativity, citizenship and the length of time lived in the United States. Comprehending disparities in health care access and sources is essential in assessing the incorporation of various Hispanic groups within the formal medical system of the U.S. Integrating nativity, duration and citizenship into the analysis permitted an investigation of the integration processes of different U.S. Hispanic groups within the United States.

In this research, medical care access and the type of medical care utilized by Hispanic subgroups in comparison to non-Hispanic whites and blacks is the cultural pattern of interest. While the adoption of U.S. cultural patterns by immigrants has been argued by some to worsen the health of immigrants and their subsequent generations, incorporation into the United States may increase the access to and types of medical care for Hispanic subgroups. Nativity, duration and citizenship were utilized as the immigration status measures. As these immigration status measures are taken into account, how are Hispanics being incorporated in the U.S. health care system?

In this research, 'access to health care' was defined as having a "usual source of health care". 'Sources of health care' further explored the 'usual source of care' respondents report – doctor's office, clinic, emergency room or other. The major Hispanic groups explored were Mexican Americans, Puerto Ricans, Cuban Americans as well as Other Hispanics. Specifically, this research answered the following questions:

(1) Are there differentials in health care access for Hispanic subgroups in comparison to non-Hispanic whites and blacks?
(2) Of those respondents that report having access to care, are there differences in the types or sources of care for Hispanic subgroups in comparison to non-Hispanic whites and blacks?
(3) How are the immigration status measures of nativity, duration of residence in the US and citizenship status related to access to and sources of health care for Hispanic subgroups?

(4) How do demographic precursors and socioeconomic status variables influence racial/ethnic and immigration patterns of health care access and services?

(5) How do patterns of access to health care differ between adult and child populations of Hispanic subgroups as well as in comparison to non-Hispanic whites and blacks?

These aims were accomplished by using national level, individually-based data from the National Health Interview Survey from 1999-2001. Logistic regression and multinomial logistic regression methods were utilized to estimate the odds ratios between the dependent and independent variables.

8.2 Review and Discussion of Findings

While findings were discussed and analyzed in the preceding analytic chapters, this section highlights significant results and patterns. Comparisons in access to care and sources of care between the adult and child sample, the role of immigration in incorporating Hispanics into the U.S medical center and the continued disparities in health care after including socioeconomic status and health insurance variables are discussed.

Access to Care among Adults and Children

For access to a regular source of care among the adult sample, the outcome varied tremendously across the Hispanic groups. Mexican American and Other Hispanic adults were *less* likely to report access to a regular source of care in comparison to Non-Hispanic whites. In comparison, Cuban American adults are not significantly different from Non-

Hispanic whites in reporting access to a regular source of care while Puerto Rican adults are *more* likely to report access to a regular source of care.

Among the child sample, access to a regular source of care did not contrast as blatantly between the race/ethnic subgroups of interest. Only Mexican American children are significantly different from the reference, as they are less likely to report access to a regular source of care in comparison to Non-Hispanic whites. In comparison, Puerto Rican, Cuban American and Other Hispanic children are not significantly different from Non-Hispanic whites in reporting access to a regular source of care.

Does this difference between the adult and child sample in access to care for Hispanic sub-groups indicate that the U.S. health system does a superior job in incorporating children? While Other Hispanic adults are 20% *less* likely to report access to care than Non-Hispanic whites, Other Hispanic children are *no different* in reporting access to a regular source of care than Non-Hispanic white children. Conversely, Puerto Rican adults are more likely, as compared to Non-Hispanic whites, to report access to health care while Puerto Rican children are no different in reporting access to health care. Thus, while Other Hispanic adults have less access to care than their children and the reference, Puerto Rican adults seemingly have more access to care than Non-Hispanic whites but this advantage is not conveyed to their children. The finding on Puerto Ricans is worthy of note and somewhat surprising. Previous work suggests Puerto Ricans would be significantly less likely to have access to care than non-Hispanic whites. Puerto Ricans are more likely to be economically-disadvantaged which would decrease their access both

for adults and children to a regular source of medical care (Solis et al 1990; Welch et al 1973). This is not found to be the case.

It is also of note to find continued very large difference between Mexican Americans and Non-Hispanic whites in accessing care, regardless of the age group. Indeed, even after *all* variables were taken into account, Mexican Americans, both adults and children, reported less access to health care. Perhaps these inequalities may persist for Mexicans and Mexican Americans because they continue to migrate circularly between the United States and Mexico. The lower rates of citizenship as well as the higher levels of foreign-born status may focus the attention of Mexican Americans away from the American medical system. Then again, it *could* be that Mexican Americans are more likely to depend on more traditional or non-Western sources of medical care. Without detailed surveys or ethnographic research, however, no such conclusions can be drawn.

Sources of Care among Adults and Children

Sources of regular health care varied significantly between race/ethnic groups in the adult sample. Mexican American, Puerto Rican and Other Hispanic adults were all less likely to report relying on a private doctor's office than other types of care in comparison to Non-Hispanic whites. All these groups were much more likely than Non-Hispanic whites to report the use of a clinic and the emergency room as compared to a private doctor as their source of regular medical care. Similarly, Mexican American and Other Hispanic *children* were both less likely to report a private doctor's office than other types of care in comparison to Non-Hispanic whites. Specifically, Mexican American

children were much more likely than Non-Hispanic whites to use a clinic as compared to a private doctor as their source of regular medical care. Other Hispanic and Non-Hispanic black children were also much more likely than Non-Hispanic whites to report the use a clinic *and* the emergency room.

This comparison illustrates a divergence within the Mexican American subgroup. Mexican American adults are more likely, as compared to Non-Hispanic whites, to report the use of a clinic and the emergency room as compared to a private doctor as their source of regular medical care. Mexican American children are more likely to report the use of a clinic but *not* an emergency room as their regular source of care in comparison to Non-Hispanic whites. This suggests that Mexican American children are receiving superior care than their adult counterparts, at least those that report access to a regular source of care.

Role of Immigration Status and the U.S. Health System

The immigration status variables of nativity, duration and citizenship contribute greatly to the incorporation of various Hispanic groups into the U.S medical system. More specifically, within the adult sample, these variables explain much of the differentials in access to and sources of regular health care initially documented among Hispanic sub-groups in comparison to Non-Hispanic whites. In addition, the impact of the nativity, duration and citizenship status of the mother also clarified the disparities in access to and sources of regular health care among children in the race/ethnic minority subgroups. While the models were discussed in detail in Chapters 4 through 7, it is well documented

that individuals with greater incorporation into the United States are more likely to reflect the same access to care patterns as the native-born. These findings are not wholly unexpected, as nativity, duration of residence and citizenship of Hispanics will hinder or facilitate access to medical care, as recent research has shown (Thamer et al 1997; Shettterly et al 1996; LeClere et al 1994; Jang et al 1998). The variables of nativity, duration and citizenship may measure an integration process whereby immigrants become more incorporated into the U.S. socio-political economic system. As immigrants gain greater knowledge of the health system, specifically as well as either private insurance or government assistance, they are able to better utilize the health care system (Frisbie et al 2001).

The data presented support my hypothesis that immigration status variables affect the access to and sources of regular medical care of the Hispanic populations. Hypothesis two proposed that as foreign-born respondents incorporate into the United States, as measured by duration and citizenship, there would be an increase the likelihood of reporting access to a regular source of care. As the duration and citizenship measures demark an "increase" in the integration of Hispanic groups into the United States (from initial duration and non-citizen all the way to ten or more years and citizen), the inequalities in access to a usual source of medical care decreased. These results support such an assertion and applied to both adult and child samples. Comparing Model 1 to Model 5 in both the adult and child analyses, noteworthy gains were made in decreasing the likelihood that Non-Hispanic whites will have greater access to care than Hispanics. Not all disparities dissipate, however, and these models draw attention to the continued

differences existing among Hispanic sub-groups in having access to a regular source of health care and sources of health care, even after the inclusion of demographic and immigration status factors.

Continued Inequalities in Health Care

An additional finding of very important note is the continued differences in access to and sources of care after controlling for socioeconomic status precursors and health insurance. While hypothesized that SES and insurance would have great bearing on access to and sources of regular medical care, the current analysis clearly demonstrates that other factors are influencing the incorporation of Hispanics into the U.S. medical care system. While socioeconomic mediators and health insurance status were shown to have a great influence on the relationship between race/ethnicity and access to medical care, disparities continued to exist between race/ethnic groups once these were controlled. This could be due to a lack of appropriate measures. Returning to the model proposed by Anderson (see Chapter Two), it could be that factors deemed important are not available in the NHIS survey (such as 'Enabling Resources' and 'Need').

These persistent inequalities could be due to limited familiarity with the medical care system or a lack of Hispanic and Spanish-speaking doctors. As discussed earlier, the continued differences between Mexican Americans and Non-Hispanic whites is of interest. Perhaps these inequalities may persist for Mexicans and Mexican Americans due to impact of circular migration and lower rates of naturalization. Conversely, it *could* be that traditional or Non-Western sources of medical care continue to play a large role in

Mexican American communities. Without detailed surveys or ethnographic research, however, no such conclusions can be drawn.

Together, through nativity, duration and citizenship statuses, my research takes into account 'direction' towards the US core culture and that as one integrates into the United States (immigrates to the United States, spends longer time in the United States, and naturalizes as a U.S. citizen), individuals have greater odds of having access to and better sources of medical care. However, this research lacks longitudinal data and does not follow individuals as they acculturate *over time*. Nevertheless these results provide solid cross-sectional evidence for the important role immigration status plays in accesses medical care.

Sample size is an additional limitation of this work. I am only able to explore Mexican American children in my sources of regular medical care. All other Hispanic children are bundled into a single Hispanic category. This, unfortunately, blends any sub-group trends and restricts the comparison that can be made between the adult and the children samples in regards to sources of regular medical care.

8.3 Policy Implications

The policy implications of this research appear to be clear. Health insurance was an incredibly strong predictor of access to care and access to private care. The United States is the only developed country without national health insurance. The lack of insurance is felt most acutely by race/ethnic minority groups. While adopting a national health care insurance program is not politically popular at the moment, efforts must be

stepped up in this regard. While it is not the single answer in eliminating health disparities, expanding health insurance coverage would increase the access to health care and the access to private care.

8.4 Future Directions

As is usually the case, research raises more questions than it answers. To extend my efforts, I plan on expanding the present research to include data from the 2002 and 2003 (when available) National Health Interview Surveys to enlarge my sample sizes. Optimistically, this will allows the comparison of sources of a regular care for a larger variety of Hispanic sub-group children.

Moreover, I would like to include Asian and Pacific Islander populations within the United States in my analyses. While some research has been conducted on access to regular care among the Asians and Pacific Islanders, virtually no population-based work has explored the sources of regular care. In addition, only a small quantity of research has explored the role of immigration variables on the access to and sources of care outcomes for these groups.

In addition, I would like to investigate the patterns documented in this research with longitudinal analysis. Data from the New Immigrant Survey and/or the Early Childhood Longitudinal Study could be useful in exploring the role of immigration status over time of an individual.

TABLES

TABLE 4.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 1	Model 2	Model 3
Race/ethnicity [Non-Hispanic White]			
Mexican American	0.31 ***	0.34 ***	0.49 ***
Puerto Rican	0.97	0.86	1.14
Cuban American	0.52 ***	0.54 ***	0.86
Other Hispanic	0.43 ***	0.42 ***	0.65 ***
Non-Hispanic Black	0.86 ***	1.02	1.06
Nativity [U.S. Born]			
Foreign Born			0.53 ***
Duration [U.S. Born]			
Less than Five Years			
Five to Nine Years			
Ten or More Years			
Duration and Citizenship [US Born]			
Less than Five Years and Citizen			
Less than Five Years and Noncitizen			
Five to Nine Years and Citizen			
Five to Nine Years and Noncitizen			
Ten or More Years and Citizen			
Ten or More Years and Noncitizen			
Sex [Male]		2.41 ***	2.40 ***
Female			
Age (continuous in years)		1.04 ***	1.04 ***
Marital Status [Married]			
Widowed		0.55 ***	0.55 ***
Divorced or Separated		0.56 ***	0.55 ***
Never Married		0.56 ***	0.55 ***
Country Region [Northeast]			
Midwest		0.64 ***	0.61 ***
South		0.59 ***	0.57 ***
West		0.67 ***	0.65 ***
Residence Local [Large Urban Area MSA size of 250,000+]			
Small Urban Area (MSA under 250,000)		0.91	0.89
Non-Urban Area (non-MSA)		0.94	0.91

TABLE 4.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 1	Model 2	Model 3
Education [College and Beyond]			
Up to 8th Grade			
Some High School			
High School Degree			
Some College			
Unknown			
Household Income [$35,000 or more]			
Less than $9,999			
$10,000-19,999			
$20,000-34,999			
Income Not Reported			
Employment Status [Employed Full Time]			
Employed Part-time			
Unemployed			
Not in Formal Labor Force -- Homemaker			
Not in Formal Labor Force -- School			
Not in Formal Labor Force -- Retired			
Not in Formal Labor Force -- Disabled			
Insurance [Private]			
Misc. Government			
Not Insured			
Health Status [Excellent]			
Good			
Fair/Poor			
*** p<.001 ** p<.01 *p<.05			
N=65061 -2LL (Intercept Only)	53690.48	53680.48	53672.10
-2LL (Full Model)	52541.76	49289.93	49026.94
X^2	1138.72	4390.56	4645.16
Degrees of Freedom	5	15	16

TABLE 4.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 4	Model 5	Model 6
Race/ethnicity [Non-Hispanic White]			
Mexican American	0.44 ***	0.46 ***	0.62 ***
Puerto Rican	1.02	0.90	1.13
Cuban American	0.77 **	0.76 **	0.81 *
Other Hispanic	0.59 ***	0.61 ***	0.69 ***
Non-Hispanic Black	1.04	1.05	1.20 ***
Nativity [U.S. Born]			
Foreign Born			
Duration [U.S. Born]			
Less than Five Years	0.29 ***		
Five to Nine Years	0.52 ***		
Ten or More Years	0.75 ***		
Duration and Citizenship [US Born]			
Less than Five Years and Citizen		0.39 **	0.44 **
Less than Five Years and Noncitizen		0.28 ***	0.35 ***
Five to Nine Years and Citizen		1.09	1.17
Five to Nine Years and Noncitizen		0.44 ***	0.58 ***
Ten or More Years and Citizen		0.91	0.93
Ten or More Years and Noncitizen		0.59 ***	0.75 ***
Sex [Male]			
Female	2.41 ***	2.41 ***	2.69 ***
Age (continuous in years)	1.04 ***	1.04 ***	1.04 ***
Marital Status [Married]			
Widowed	0.55 ***	0.55 ***	0.66 ***
Divorced or Separated	0.55 ***	0.55 ***	0.62 ***
Never Married	0.55 ***	0.55 ***	0.61 ***
Country Region [Northeast]			
Midwest	0.62 ***	0.62 ***	0.62 ***
South	0.58 ***	0.58 ***	0.60 ***
West	0.65 ***	0.65 ***	0.65 ***
Residence Local [Large Urban Area MSA size of 250,000+]			
Small Urban Area (MSA under 250,000)	0.89	0.89	0.94
Non-Urban Area (non-MSA)	0.91 *	0.91 *	1.05

TABLE 4.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 4	Model 5	Model 6
Education [College and Beyond]			
Up to 8th Grade			0.51 ***
Some High School			0.56 ***
High School Degree			0.71 ***
Some College			0.91 *
Unknown			0.53 ***
Household Income [$35,000 or more]			
Less than $9,999			0.67 ***
$10,000-19,999			0.54 ***
$20,000-34,999			0.69 ***
Income Not Reported			0.73 ***
Employment Status [Employed Full Time]			
Employed Part-time			0.79 ***
Unemployed			0.48 ***
Not in Formal Labor Force -- Homemaker			0.70 ***
Not in Formal Labor Force -- School			0.81
Not in Formal Labor Force -- Retired			0.91
Not in Formal Labor Force -- Disabled			2.79 ***
Insurance [Private]			
Misc. Government			
Not Insured			
Health Status [Excellent]			
Good			
Fair/Poor			
*** p<.001 ** p<.01 *p<.05			
N=65061 -2LL (Intercept Only)	53680.48	53680.48	53680.48
-2LL (Full Model)	48956.43	48903.46	47834.61
X^2	4724.05	4777.02	5845.87
Degrees of Freedom	18	21	36

TABLE 4.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 7	Model 8
Race/ethnicity [Non-Hispanic White]		
Mexican American	0.70 ***	0.71 ***
Puerto Rican	1.31 *	1.27 *
Cuban American	0.89	0.88
Other Hispanic	0.81 **	0.80 **
Non-Hispanic Black	1.33 ***	1.31 ***
Nativity [U.S. Born]		
Foreign Born		
Duration [U.S. Born]		
Less than Five Years		
Five to Nine Years		
Ten or More Years		
Duration and Citizenship [US Born]		
Less than Five Years and Citizen	0.41 **	0.41 **
Less than Five Years and Noncitizen	0.41 ***	0.42 ***
Five to Nine Years and Citizen	1.25	1.30
Five to Nine Years and Noncitizen	0.70 ***	0.74 ***
Ten or More Years and Citizen	0.91	0.92
Ten or More Years and Noncitizen	0.81 **	0.84 *
Sex [Male]		
Female	2.57 ***	2.55 ***
Age (continuous in years)	1.03 ***	1.03 ***
Marital Status [Married]		
Widowed	0.76 **	0.75 **
Divorced or Separated	0.70 ***	0.70 ***
Never Married	0.68 ***	0.68 ***
Country Region [Northeast]		
Midwest	0.58 ***	0.57 ***
South	0.62 ***	0.61 ***
West	0.66 ***	0.65 ***
Residence Local [Large Urban Area MSA size of 250,000+]		
Small Urban Area (MSA under 250,000)	0.98	0.98
Non-Urban Area (non-MSA)	1.14 *	1.13 **

TABLE 4.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usua Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 7	Model 8
Education [College and Beyond]		
Up to 8th Grade	0.76 ***	0.68 ***
Some High School	0.78 ***	0.72 ***
High School Degree	0.82 ***	0.80 ***
Some College	1.00	0.99
Unknown	0.79	0.76
Household Income [$35,000 or more]		
Less than $9,999	1.14 *	1.04
$10,000-19,999	0.87 **	0.83 ***
$20,000-34,999	0.85 ***	0.83 ***
Income Not Reported	0.88	0.88
Employment Status [Employed Full Time]		
Employed Part-time	0.90 **	0.91 *
Unemployed	0.71 ***	0.72 ***
Not in Formal Labor Force -- Homemake	0.88 *	0.90
Not in Formal Labor Force -- School	1.11	1.16
Not in Formal Labor Force -- Retired	0.95	0.98
Not in Formal Labor Force -- Disabled	3.08 ***	2.43 ***
Insurance [Private]		
Misc. Government	0.38 ***	0.36 ***
Not Insured	0.19 ***	0.18 ***
Health Status [Excellent]		
Good		1.09 **
Fair/Poor		2.11 ***
*** p<.001 ** p<.01 *p<.05		
N=65061 -2LL (Intercept Only)	53680.48	53680.48
-2LL (Full Model)	45236.44	45003.50
X^2	8444.04	8676.98
Degrees of Freedom	38	40

TABLE 4.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Mexican N=7148	Puerto Rican N=1236	Cuban & Other Hsp N=3358
Duration and Citizenship [US Born]			
Less than Five Years and Citizen	0.31	0.77	1.28
Less than Five Years and Noncitizen	0.49 ***	n/a	0.37 ***
Five to Nine Years and Citizen	1.06	1.21	2.48 *
Five to Nine Years and Noncitizen	0.81	n/a	0.62 *
Ten or More Years and Citizen	0.96	1.27	0.90
Ten or More Years and Noncitizen	0.98	n/a	0.83
Sex [Male]			
Female	2.74 ***	2.42 **	2.72 ***
Age (continuous in years)	1.02 ***	1.00	1.01
Marital Status [Married]			
Widowed	0.71	0.43	0.79
Divorced or Separated	0.78 *	0.72	0.85
Never Married	0.74 *	0.86	0.79
Country Region [Northeast]			
Midwest	0.90	0.35 **	0.61
South	0.75	0.48 **	0.50 ***
West	0.90	0.73	0.61 *
Residence Local [Large Urban Area MSA size of 250,000+]			
Small Urban Area (MSA under 250,000)	1.29 *	0.51	0.79
Non-Urban Area (non-MSA)	1.03	0.85	0.73
Education [College and Beyond]			
C Up to 8th Grade	0.73 *	1.68	0.84
Some High School	0.79	1.01	1.14
High School Degree	0.96	2.27 *	0.95
Some College	1.46 *	1.28	1.11
Unknown	0.68	1.56	1.76
Household Income [$35,000 or more]			
Less than $9,999	1.11	1.47	0.97
$10,000-19,999	0.85	1.33	0.80
$20,000-34,999	0.75 **	0.85	0.84
Income Not Reported	0.61 **	1.95	0.65

TABLE 4.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

		Mexican N=7148	Puerto Rican N=1236	Cuban & Other Hsp N=3358
Employment Status [Employed Full Time]				
	Employed Part-time	0.91	1.02	1.15
	Unemployed	0.76	0.59	0.62
	Not in Formal Labor Force -- Homemaker	1.07	1.01	1.34
	Not in Formal Labor Force -- School	1.38	0.68	1.29
	Not in Formal Labor Force -- Retired	1.73	3.78	3.09 *
	Not in Formal Labor Force -- Disabled	4.31 **	2.56	3.87 *
Insurance [Private]				
B	Misc. Government	0.23 ***	0.33 ***	0.16 ***
	Not Insured	0.14 ***	0.12 ***	0.07 ***
Health Status [Excellent]				
B	Good	0.79 **	1.04	0.85
	Fair/Poor	1.44 **	2.44 **	1.87 **
	*** p<.001 ** p<.01 *p<.05			
	N=65061 -2LL (Intercept Only)	8934.37	949.08	3726.13
	-2LL (Full Model)	7007.40	779.23	2720.37
	X^2	1926.97	169.86	1005.76
	Degrees of Freedom	35	34	35

A=Non-Hispanic black significantly different from Non-Hispanic white
B=Mexican American significantly different from Non-Hispanic white
C=Puerto Rican significantly different from Non-Hispanic white
D=Cubans/Other Hisapnics significantly different from Non-Hispanic white

TABLE 4.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Non-Hispanic Whites N=43540	Non-Hispanic Blacks N=9779
Duration and Citizenship [US Born]		
Less than Five Years and Citizen	0.25 *	0.20 *
Less than Five Years and Noncitizen	0.43 ***	0.39 **
Five to Nine Years and Citizen	0.95	1.93
Five to Nine Years and Noncitizen	0.87	0.66
Ten or More Years and Citizen	1.01	0.64 *
Ten or More Years and Noncitizen	0.90	0.72
Sex [Male]		
Female	2.47 ***	2.81 ***
Age (continuous in years)	1.03 ***	1.03 ***
Marital Status [Married]		
Widowed	0.76 *	0.80
Divorced or Separated	0.65 ***	0.82 *
Never Married	0.63 ***	0.73 ***
Country Region [Northeast]		
Midwest	0.58 ***	0.47 ***
South	0.63 ***	0.53 ***
West	0.65 ***	0.61 **
Residence Local [Large Urban Area MSA size of 250,000+]		
Small Urban Area (MSA under 250,000)	0.96	0.88
Non-Urban Area (non-MSA)	1.14 *	1.10
Education [College and Beyond]		
Up to 8th Grade	0.89	0.59 *
Some High School	0.66 ***	0.72 *
High School Degree	0.79 ***	0.67 ***
Some College	0.94	0.96
Unknown	0.79	0.61
Household Income [$35,000 or more]		
Less than $9,999	0.92	1.32 *
$10,000-19,999	0.80 **	0.89
$20,000-34,999	0.85 **	0.87
Income Not Reported	0.93	1.02

TABLE 4.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Non-Hispanic Whites N=43540	Non-Hispanic Blacks N=9779
Employment Status [Employed Full Time]		
Employed Part-time	0.92	0.84
Unemployed	0.76 **	0.60 ***
Not in Formal Labor Force -- Homemaker	0.85 *	0.75
Not in Formal Labor Force -- School	1.22	0.76
Not in Formal Labor Force -- Retired	0.94	0.58 *
Not in Formal Labor Force -- Disabled	2.24 ***	1.87
Insurance [Private]		
Misc. Government	0.39 ***	0.46 ***
Not Insured	0.19 ***	0.18 ***
Health Status [Excellent]		
Good	1.15 ***	1.04
Fair/Poor	2.25 ***	1.88 ***
*** p<.001 ** p<.01 *p<.05		
N=65061 -2LL (Intercept Only)	32861.24	8017.56
-2LL (Full Model)	28599.05	6766.26
X^2	4262.18	1251.3
Degrees of Freedom	35	35

A=Non-Hispanic black significantly different from Non-Hispanic white
B=Mexican American significantly different from Non-Hispanic white
C=Puerto Rican significantly different from Non-Hispanic white
D=Cubans/Other Hisapnics significantly different from Non-Hispanic white

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 1			Model 2		
	Clinic [Private Doctor's Office]	ER	Other	Clinic [Private Doctor's Office]	ER	Other
Race/ethnicity [Non-Hispanic White]						
Mexican American	2.13 ***	2.69 ***	2.43 ***	2.40 ***	2.88 ***	1.99 ***
Puerto Rican	1.66 ***	4.79 ***	1.07	2.69 ***	4.98 ***	1.28
Other Hispanic	1.47 ***	3.81 ***	1.89 ***	2.16 ***	4.27 ***	1.91 **
Non-Hispanic Black	1.38 ***	4.21 ***	1.30 *	1.65 ***	3.84 ***	1.12
Nativity [U.S. Born]						
Foreign Born						
Duration [U.S. Born]						
Less than Five Years						
Five to Nine Years						
Ten or More Years						
Duration and Citizenship [US Born]						
Less than Five Years and Citizen						
Less than Five Years and Noncitizen						
Five to Nine Years and Citizen						
Five to Nine Years and Noncitizen						
Ten or More Years and Citizen						
Ten or More Years and Noncitizen						
Sex [Male]						
Female				0.92 **	0.47 ***	0.46 ***
Age (continuous in years)				0.99 ***	1.01	0.98 ***
Marital Status [Married]						
Widowed				1.37 ***	2.31 ***	2.30 **
Divorced or Separated				1.34 ***	2.36 ***	1.76 ***
Never Married				1.42 ***	3.11 ***	2.14 ***
Country Region [Northeast]						
Midwest				2.61 ***	1.10	1.65 **
South				1.19 *	0.94	1.86 ***
West				2.14 ***	1.22	1.84 ***
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA under 250,000)				2.12 ***	1.41 *	1.61 **
Non-Urban Area (non-MSA)				2.09 ***	1.47 ***	0.95

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 1			Model 2		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Education [College and Beyond]						
Up to 8th Grade						
Some High School						
High School Degree						
Some College						
Unknown						
Household Income [$35,000 or more]						
Less than $9,999						
$10,000-19,999						
$20,000-34,999						
Income Not Reported						
Employment Status [Employed Full Time]						
Employed Part-time						
Unemployed						
Not in Formal Labor Force -- Homemaker, Taking Care of Children						
Not in Formal Labor Force -- School						
Not in Formal Labor Force -- Retired						
Not in Formal Labor Force -- Disabled						
Insurance [Private]						
Misc. Governemnt						
Not Insured						
Health Status [Excellent]						
Good						
Fair/Poor						
*** p<.001 ** p<.01 *p<.05						
N=65,601						
-2LL (Intercept Only)			69621.93			69621.93
-2LL (Full Model)			68692.32			65836.83
X^2			929.60			3785.10
Degrees of Freedom			12.00			42.00

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 3			Model 4		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	1.86 ***	2.44 ***	1.50 **	1.90 ***	2.46 ***	1.61 **
Puerto Rican	2.12 ***	4.29 ***	0.99	2.23 ***	4.45 ***	1.10
Other Hispanic	1.52 ***	3.38 ***	1.29	1.54 ***	3.34 ***	1.38
Non-Hispanic Black	1.61 ***	3.76 ***	1.08	1.62 ***	3.76 ***	1.10
Nativity [U.S. Born]						
Foreign Born	1.68 ***	1.41 ***	1.78 ***			
Duration [U.S. Born]						
Less than Five Years				2.96 ***	2.42 ***	3.99 ***
Five to Nine Years				2.44 ***	2.40 ***	2.82 ***
Ten or More Years				1.43	1.21	1.21 ***
Duration and Citizenship [US Born]						
Less than Five Years and Citizen						
Less than Five Years and Noncitizen						
Five to Nine Years and Citizen						
Five to Nine Years and Noncitizen						
Ten or More Years and Citizen						
Ten or More Years and Noncitizen						
Sex [Male]						
Female	0.92 **	0.47 ***	0.46 ***	0.92 **	0.47 ***	0.46 ***
Age (continuous in years)	0.99 ***	1.01	0.98 ***	0.99 ***	1.01 *	0.98 ***
Marital Status [Married]						
Widowed	1.37 ***	2.32 ***	2.30 **	1.37 ***	2.32 ***	2.31 **
Divorced or Separated	1.36 ***	2.39 ***	1.79 ***	1.37 ***	2.41 ***	1.82 ***
Never Married	1.45 ***	3.16 ***	2.19 ***	1.46 ***	3.18 ***	2.20 ***
Country Region [Northeast]						
Midwest	2.72 ***	1.14	1.73 ***	2.71 ***	1.13	1.70 ***
South	1.23 **	0.97	1.95 ***	1.22 **	0.97	1.90 ***
West	1.89 ***	1.25	2.20 ***	1.89 ***	1.25	2.20 ***
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA under 250,000)	2.17 ***	1.43 **	1.65 **	2.17 ***	1.43 *	1.65 **
Non-Urban Area (non-MSA)	2.15 ***	1.50 ***	0.99	2.15 ***	1.50 ***	0.98

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 3			Model 4		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Education [College and Beyond]						
Up to 8th Grade						
Some High School						
High School Degree						
Some College						
Unknown						
Household Income [$35,000 or more]						
Less than $9,999						
$10,000-19,999						
$20,000-34,999						
Income Not Reported						
Employment Status [Employed Full Time]						
Employed Part-time						
Unemployed						
Not in Formal Labor Force -- Homemaker, Taking Care of Children						
Not in Formal Labor Force -- School						
Not in Formal Labor Force -- Retired						
Not in Formal Labor Force -- Disabled						
Insurance [Private]						
Misc. Governemnt						
Not Insured						
Health Status [Excellent]						
Good						
Fair/Poor						
*** p<.001 ** p<.01 *p<.05						
N=65,601						
-2LL (Intercept Only)			69621.93			69621.93
-2LL (Full Model)			65675.10			65586.45
X^2			3937.35			4035.48
Degrees of Freedom			45.00			51.00

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 5			Model 6		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	1.79 ***	2.27 ***	1.54 **	1.41 ***	1.55 ***	1.39 *
Puerto Rican	2.55 ***	5.33 ***	1.20	2.06 ***	3.50 ***	1.07
Other Hispanic	1.51 ***	3.20 ***	1.35	1.38 ***	2.70 ***	1.33
Non-Hispanic Black	1.61 ***	3.76 ***	1.10	1.44 ***	2.97 ***	1.04
Nativity [U.S. Born]						
Foreign Born						
Duration [U.S. Born]						
Less than Five Years						
Five to Nine Years						
Ten or More Years						
Duration and Citizenship [US Born]						
Less than Five Years and Citizen	1.19	0.40	3.24	1.06	0.33	2.87
Less than Five Years and Noncitizen	3.27 ***	2.83 ***	4.15 ***	2.63 ***	2.13 ***	3.24 ***
Five to Nine Years and Citizen	1.51 *	0.94	1.03	1.38	0.86	0.94
Five to Nine Years and Noncitizen	2.87 ***	3.10 ***	3.52 ***	2.40 ***	2.39 ***	3.01 ***
Ten or More Years and Citizen	1.17 *	0.96	1.07	1.13	0.94	1.03
Ten or More Years and Noncitizen	1.99 ***	1.81 ***	1.53 *	1.63 ***	1.45 *	1.34
Sex [Male]						
Female	0.92 **	0.47 ***	0.46 ***	0.86 ***	0.40 ***	0.39 ***
Age (continuous in years)	0.99 ***	1.01 *	0.98 ***	0.99 ***	1.00	0.98 ***
Marital Status [Married]						
Widowed	1.38 ***	2.33 ***	2.31 **	1.09	1.58 **	1.99 *
Divorced or Separated	1.37 ***	2.41 ***	1.82 ***	1.14 **	1.76 ***	1.59 ***
Never Married	1.46 ***	3.18 ***	2.20 ***	1.27 ***	2.44 ***	1.98 ***
Country Region [Northeast]						
Midwest	2.71 ***	1.14	1.71 ***	2.76 ***	1.16	1.72 ***
South	1.23 **	0.98	1.91 ***	1.17 *	0.91	1.84 ***
West	1.90 ***	1.26	2.21 ***	1.90 ***	1.26	2.16 ***
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA under 250,000)	2.18 ***	1.44 **	1.66 **	2.09 ***	1.32 *	1.58 **
Non-Urban Area (non-MSA)	2.15 ***	1.50 ***	0.98	1.92 ***	1.17	0.91

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 5			Model 6		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Education [College and Beyond]						
Up to 8th Grade				1.74 ***	1.92 ***	1.15
Some High School				1.41 ***	2.11 ***	0.89
High School Degree				1.11 *	1.40 ***	0.85
Some College				1.06	1.23 *	1.00
Unknown				1.44 *	1.76	1.28
Household Income [$35,000 or more]						
Less than $9,999				2.27 ***	3.20 ***	2.00 ***
$10,000-19,999				2.02 ***	3.15 ***	2.13 ***
$20,000-34,999				1.33 ***	1.89 ***	1.44 **
Income Not Reported				1.14	1.48 **	1.71 **
Employment Status [Employed Full Time]						
Employed Part-time				1.21 ***	1.23 *	1.44 ***
Unemployed				1.65 ***	2.74 ***	1.90 ***
Not in Formal Labor Force -- Homemaker, Taking Care of Children				1.18 **	1.59 ***	1.81 ***
Not in Formal Labor Force -- School				1.69 ***	1.06	2.73 ***
Not in Formal Labor Force -- Retired				0.89	1.07	0.57
Not in Formal Labor Force -- Disabled				1.03	1.45 *	0.97
Insurance [Private]						
Misc. Governemnt						
Not Insured						
Health Status [Excellent]						
Good						
Fair/Poor						
*** p<.001 ** p<.01 *p<.05						
N=65,601						
-2LL (Intercept Only)				69621.93		69621.93
-2LL (Full Model)				65511.58		64262.05
X^2				4110.35		5359.87
Degrees of Freedom				60.00		105.00

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 7			Model 8		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	1.33 ***	1.36 *	1.18	1.33 ***	1.35 *	1.19
Puerto Rican	2.11 ***	3.72 ***	1.14	1.14 ***	3.57 ***	2.09
Cuban American	1.34 ***	2.55 ***	1.25	1.24 ***	2.52 ***	1.34
Other Hispanic	1.44 ***	2.98 ***	1.05	1.44 ***	2.91 ***	1.05
Non-Hispanic Black						
Nativity [U.S. Born]						
Foreign Born						
Duration [U.S. Born]						
Less than Five Years						
Five to Nine Years						
Ten or More Years						
Duration and Citizenship [US Born]						
Less than Five Years and Citizen	1.12	0.39	3.33	1.11	0.39	3.33
Less than Five Years and Noncitizen	2.42 ***	1.75 *	2.77 ***	2.44 ***	1.86 **	2.70 ***
Five to Nine Years and Citizen	1.34	0.75	0.84	1.35	0.78	0.83
Five to Nine Years and Noncitizen	2.16 ***	1.90 **	2.36 **	2.18 ***	1.98 **	2.35 **
Ten or More Years and Citizen	1.13	0.93	1.02	1.13	0.95	1.02
Ten or More Years and Noncitizen	1.54 ***	1.24	1.15	1.55 ***	1.29	1.14
Sex [Male]						
Female	0.86 ***	0.42 ***	0.40 ***	0.86 ***	0.41 ***	0.40 ***
Age (continuous in years)	0.99 ***	1.01	0.99 **	0.99 ***	1.00	0.99 **
Marital Status [Married]						
Widowed	1.06	1.45 *	1.83 *	1.06	1.44 *	1.83 *
Divorced or Separated	1.10 *	1.63 ***	1.40 **	1.10 *	1.60 ***	1.42 **
Never Married	1.21 ***	2.23 ***	1.73 ***	1.20 ***	2.19 ***	1.74 ***
Country Region [Northeast]						
Midwest	2.81 ***	1.22	1.83 ***	2.80 ***	1.21	1.83 ***
South	1.14	0.85	1.73 ***	1.13	0.84	1.72 ***
West	1.93 ***	1.33 *	2.28 ***	1.92 ***	1.32 *	2.27 ***
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA under 250,000)	2.07 ***	1.28	1.54 **	2.07 ***	1.28	1.54 **
Non-Urban Area (non-MSA)	1.87 ***	1.09	0.84	1.86 ***	1.07	0.85

TABLE 5.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Model 7			Model 8		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Education [College and Beyond]						
Up to 8th Grade	1.58 ***	1.60 ***	0.87	1.52 ***	1.42 **	0.90
Some High School	1.30 ***	1.80 ***	0.69 *	1.26 ***	1.63 ***	0.71 *
High School Degree	1.07	1.27 **	0.75 *	1.05	1.21 *	0.77 *
Some College	1.04	1.16	0.92	1.03	1.11	0.94
Unknown	1.24	1.36	0.86	1.22	1.28	0.88
Household Income [$35,000 or more]						
Less than $9,999	2.11 ***	2.77 ***	1.65 **	2.05 ***	2.47 ***	1.69 **
$10,000-19,999	1.79 ***	2.53 ***	1.57 ***	1.76 ***	2.35 ***	1.60 ***
$20,000-34,999	1.26 ***	1.71 ***	1.24	1.25 ***	1.66 ***	1.26
Income Not Reported	1.09	1.32 *	1.49 *	1.09	1.31	1.49 *
Employment Status [Employed Full Time]						
Employed Part-time	1.16 ***	1.08 *	1.25 *	1.16 ***	1.09	1.26 *
Unemployed	1.41 ***	1.97 ***	1.29	1.40 ***	1.97 ***	1.31
Not in Formal Labor Force -- Homemake	1.11	1.35 **	1.51 *	1.11 *	1.39 **	1.50 *
Not in Formal Labor Force -- School	1.55 **	0.88	2.18 **	1.56 **	0.90	2.17 **
Not in Formal Labor Force -- Retired	0.89	1.07	0.57	0.89	1.11	0.56
Not in Formal Labor Force -- Disabled	1.11	1.75 ***	1.23	1.05	1.42 *	1.30
Insurance [Private]						
Misc. Governemnt	5.39 ***	7.40 ***	2.98 ***	5.71 ***	7.21 ***	3.01 ***
Not Insured	6.94 ***	8.31 ***	2.72 ***	7.25 ***	8.14 ***	2.73 ***
Health Status [Excellent]						
Good				0.78 **	1.16 *	1.06
Fair/Poor				0.55 ***	1.25 *	0.96

*** p<.001 ** p<.01 *p<.05

N=65,601

-2LL (Intercept Only)	69621.93	69621.93
-2LL (Full Model)	62230.49	62193.79
X^2	7391.44	7428.13
Degrees of Freedom	111.00	117.00

TABLE 5.2: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	All Hispanics			Non-Hispanic White		
	Clinic [Private Doctor's Office]	ER	Other	Clinic [Private Doctor's Office]	ER	Other
Duration [U.S. Born]						
Less than Five Years	1.84 ***	1.71 *	1.37	2.02 *	1.29	2.64
Five to Nine Years	1.68 ***	1.29	1.28	1.20	2.06	2.07
Ten or More Years	1.15	1.01	0.71	1.18	1.10	0.85
Citizenship [US Citizens]						
Non-Citizens	1.42 ***	1.51 *	1.84 **	0.93	0.96	0.77
Sex [Male]						
Female	0.95	0.53 ***	0.60 *	0.81 ***	0.38 ***	0.39 ***
Age (continuous in years)	1.01 *	1.00	0.99	0.99 **	1.01	0.98 **
Marital Status [Married]						
Widowed	0.73	1.04	1.92	1.06	1.57	2.22 *
Divorced or Separated	1.27 *	1.49 *	1.02	0.99	1.45 **	1.49 **
Never Married	1.30 **	1.67 **	1.08	1.10 *	2.39 ***	1.71 ***
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA under 250,000)	1.49	0.48	0.86	2.26 ***	1.30	1.66 **
Non-Urban Area (non-MSA)	1.32	0.50 *	0.49 *	0.85 ***	1.22	2.04
Education [College and Beyond]						
B1 Up to 8th Grade	2.75 ***	1.48	1.01	1.08	0.76	0.11
B1 Some High School	2.31 ***	1.33	0.92	1.12	1.96 ***	0.58 *
High School Degree	1.54 **	1.19	0.65	1.09	1.49 **	0.83
Some College	1.63 ***	1.17	0.96	1.02	1.13	0.99
Unknown	2.53 **	0.62	0.47	1.00	2.10	0.64
Household Income [$35,000 or more]						
Less than $9,999	1.59 ***	1.62 *	1.27	1.57 ***	2.20 ***	1.48
$10,000-19,999	1.69 ***	1.65 **	1.77 *	1.54 ***	2.37 ***	1.58 **
$20,000-34,999	1.17	1.04	1.20	1.28 ***	1.71 ***	1.17
Income Not Reported	1.14	0.57	0.74	1.06	1.32	1.78 **

TABLE 5.2: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	All Hispanics			Non-Hispanic White		
	Clinic [Private Doctor's Office]	ER	Other	Clinic [Private Doctor's Office]	ER	Other
Employment Status [Employed Full Time]						
Employed Part-time	1.21	1.13	1.26	1.10 *	0.96	1.12
Unemployed	1.34	1.10	0.47	1.13	1.13	1.13
Not in Formal Labor Force -- Homemaker	1.27 *	1.25	1.01	0.97	1.12	1.51
Not in Formal Labor Force -- School	1.35	0.60	4.77 **	1.59 **	0.83	1.93
Not in Formal Labor Force -- Retired	1.26	1.30	0.8	0.81 *	0.92	0.42 *
Not in Formal Labor Force -- Disabled	0.53 *	0.94	0.96	0.80	0.62	0.56
Insurance [Private]						
Misc. Governemnt	2.64 ***	2.91 ***	2.64 ***	1.91 ***	3.00 ***	2.44 ***
B1 Not Insured	2.62 ***	4.00 ***	7.71 ***	1.79 ***	3.48 ***	4.02 ***
Health Status [Excellent]						
Good	1.06	1.24	0.81	1.06	1.17	0.82
Fair/Poor	1.23	1.86 *	0.49	1.00	1.64 **	0.80

*** p<.001 ** p<.01 *p<.05

N=65,601

-2LL (Intercept Only)	14129.30	43748.74
-2LL (Full Model)	12062.30	39998.13
X^2	2067.00	3750.62
Degrees of Freedom	99.00	99.00

A1=Non-Hispanic black significantly different from Non-Hispanic white in Private Doctor versus Clinic
A2=Non-Hispanic black significantly different from Non-Hispanic white in Private Doctor versus E.R.
A3=Non-Hispanic black significantly different from Non-Hispanic white in Private Doctor versus Other
B1=All Hispanics significantly different from Non-Hispanic white in Private Doctor versus Clinic
B2=All Hispanics significantly different from Non-Hispanic white in Private Doctor versus E.R.
B3=All Hispanics significantly different from Non-Hispanic white in Private Doctor versus Other

TABLE 5.2: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Non-Hispanic Black		
	Clinic	**ER**	**Other**
	[Private Doctor's Office]		
Duration [U.S. Born]			
Less than Five Years	1.50	0.25	4.19 **
Five to Nine Years	1.31	1.03	0.75
Ten or More Years	0.90	0.56	1.43
Citizenship [US Citizens]			
Non-Citizens	1.20	1.57	1.11
Sex [Male]			
Female	0.99	0.40 ***	0.30 ***
Age (continuous in years)	0.99	1.00	0.98
Marital Status [Married]			
Widowed	1.20	1.20	0.23
Divorced or Separated	1.21	1.46 **	1.27
Never Married	1.22 *	1.70 ***	2.18 **
Residence Local [Large Urban Area MSA size of 250,000+]			
Small Urban Area (MSA under 250,000)	1.08	1.29	0.57
Non-Urban Area (non-MSA)	0.76	0.65 *	1.13
Education [College and Beyond]			
Up to 8th Grade	1.91 **	3.00 **	0.40
Some High School	1.88 ***	2.58 ***	1.77
High School Degree	1.77 ***	2.20 ***	2.26 **
Some College	1.60 ***	2.12 ***	1.44
Unknown	2.40 *	1.98	10.49 *
Household Income [$35,000 or more]			
Less than $9,999	1.67 ***	1.58 **	1.06
$10,000-19,999	1.66 ***	1.76 **	0.75
$20,000-34,999	1.17	1.70 ***	1.42
Income Not Reported	0.97	1.36	0.68

TABLE 5.2: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Adults Aged 25-64, 1999-2001

	Non-Hispanic Black		
	Clinic	**ER**	**Other**
	[Private Doctor's Office]		
Employment Status [Employed Full Time]			
Employed Part-time	1.29 **	1.30	1.75 *
Unemployed	1.38	2.52 ***	1.25
Not in Formal Labor Force -- Homemaker	1.05	1.50	1.10
Not in Formal Labor Force -- School	1.25	0.98	1.38
Not in Formal Labor Force -- Retired	1.00	1.18	2.09
Not in Formal Labor Force -- Disabled	0.78	1.15	1.74
Insurance [Private]			
Misc. Governemnt	2.46 ***	2.53 ***	1.88 *
Not Insured	2.15 ***	3.52 ***	4.27 ***
Health Status [Excellent]			
Good	1.28 **	1.29	0.76
Fair/Poor	1.47 **	1.73 **	0.85

*** p<.001 ** p<.01 *p<.05

N=65,601

-2LL (Intercept Only)	13213.06
-2LL (Full Model)	11775.15
X^2	1437.91
Degrees of Freedom	99.00

A1=Non-Hispanic black significantly different from Non-Hispanic white in Private Doctor versus Clinic
A2=Non-Hispanic black significantly different from Non-Hispanic white in Private Doctor versus E.R.
A3=Non-Hispanic black significantly different from Non-Hispanic white in Private Doctor versus Other
B1=All Hispanics significantly different from Non-Hispanic white in Private Doctor versus Clinic
B2=All Hispanics significantly different from Non-Hispanic white in Private Doctor versus E.R.
B3=All Hispanics significantly different from Non-Hispanic white in Private Doctor versus Other

TABLE 6.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 1	Model 2	Model 3
Race/ethnicity [Non-Hispanic White]			
Mexican American	0.19 ***	0.25 ***	0.40 ***
Puerto Rican	0.69	0.49 **	0.69
Cuban American	0.78	1.01	1.81
Other Hispanic	0.39 ***	0.39 ***	0.66 ***
Non-Hispanic Black	0.63 ***	0.78 **	0.80 *
Nativity of Mother [U.S. Born]			
Foreign Born			0.43 ***
Duration of Mother [U.S. Born]			
Less than Five Years			
Five to Nine Years			
Ten or More Years			
Duration and Citizenship of Mother [US Born]			
Less than Five Years and Citizen			
Less than Five Years and Noncitizen			
Five to Nine Years and Citizen			
Five to Nine Years and Noncitizen			
Ten or More Years and Citizen			
Ten or More Years and Noncitizen			
Sex [Male]			
Female		0.97	0.97
Age (continuous in years)		0.94 ***	0.93 ***
Family Structure [Married Parents]			
Mother Only		0.72 **	0.67 ***
Cohabitating Adults		0.46 ***	0.44 ***
Step Family		0.92	0.87
Other Adults in Family		0.63 ***	0.64 ***
Country Region [Northeast]			
Midwest		0.34 ***	0.30 ***
South		0.23 ***	0.21 ***
West		0.24 ***	0.23 ***
Residence Local [Large Urban Area]			
Small Urban Area		1.04	1.00
Non-Urban Area		0.92	0.86

TABLE 6.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 1	Model 2	Model 3
Education of Mother [College and Beyond]			
Up to 8th Grade			
Some High School			
High School Degree			
Some College			
Unknown			
Income [$35,000 or more]			
Less than $9,999			
$10,000-19,999			
$20,000-34,999			
Income Not Reported			
Insurance [Private]			
Misc. Governemnt			
Not Insured			
Health Status [Excellent]			
Good			
Fair/Poor			
*** p<.001 ** p<.01 *p<.05			
N=38132			
-2LL (Intercept Only)	16610.72	16610.72	16609.24
-2LL (Full Model)	15729.12	15091.25	14923.4
X^2	881.6	1591.47	1685.84
Degrees of Freedom	5	16	17

TABLE 6.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 4	Model 5	Model 6
Race/ethnicity [Non-Hispanic White]			
Mexican American	0.35 ***	0.36 ***	0.56 ***
Puerto Rican	0.63 *	0.58 *	0.83
Cuban American	1.69	1.62	1.51
Other Hispanic	0.59 ***	0.60 ***	0.73 *
Non-Hispanic Black	0.79 *	0.79 *	1.05
Nativity of Mother [U.S. Born]			
Foreign Born			
Duration of Mother [U.S. Born]			
Less than Five Years	0.18 ***		
Five to Nine Years	0.43 ***		
Ten or More Years	0.65 ***		
Duration and Citizenship of Mother [US Born]			
Less than Five Years and Citizen		0.23 ***	0.31 **
Less than Five Years and Noncitizen		0.17 ***	0.23 ***
Five to Nine Years and Citizen		0.39 *	0.41 *
Five to Nine Years and Noncitizen		0.43 ***	0.63 **
Ten or More Years and Citizen		0.81	0.84
Ten or More Years and Noncitizen		0.55 ***	0.74 **
Sex [Male]			
Female	0.97	0.97	0.96
Age (continuous in years)	0.93 ***	0.93 ***	0.93 ***
Family Structure [Married Parents]			
Mother Only	0.68 ***	0.68 ***	0.97
Cohabitating Adults	0.44 ***	0.45 ***	0.62 ***
Step Family	0.88	0.88	0.91
Other Adults in Family	0.64 ***	0.64 ***	0.77 **
Country Region [Northeast]			
Midwest	0.32 ***	0.32 ***	0.31 ***
South	0.22 ***	0.22 ***	0.23 ***
West	0.22 ***	0.23 ***	0.22 ***
Residence Local [Large Urban Area]			
Small Urban Area	0.99	0.99	1.04
Non-Urban Area	0.87	0.88	1.05

TABLE 6.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 4	Model 5	Model 6
Education of Mother [College and Beyond]			
Up to 8th Grade			0.32 ***
Some High School			0.43 ***
High School Degree			0.49 ***
Some College			0.66 **
Unknown			0.33 ***
Income [$35,000 or more]			
Less than $9,999			0.47 ***
$10,000-19,999			0.39 ***
$20,000-34,999			0.48 ***
Income Not Reported			0.60 ***
Insurance [Private]			
Misc. Governemnt			
Not Insured			
Health Status [Excellent]			
Good			
Fair/Poor			
*** p<.001 ** p<.01 *p<.05			
N=38132			
-2LL (Intercept Only)	16610.72	16610.72	16610.72
-2LL (Full Model)	14844.24	14830.34	14384
X^2	1766.48	1780.38	2262.72
Degrees of Freedom	19	22	31

TABLE 6.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 7	Model 8
Race/ethnicity [Non-Hispanic White]		
Mexican American	0.64 ***	0.64 ***
Puerto Rican	0.92	0.91
Cuban American	1.43	1.44
Other Hispanic	0.78	0.78
Non-Hispanic Black	1.10	1.09
Nativity of Mother [U.S. Born]		
Foreign Born		
Duration of Mother [U.S. Born]		
Less than Five Years		
Five to Nine Years		
Ten or More Years		
Duration and Citizenship of Mother [US Born]		
Less than Five Years and Citizen	0.33 *	0.34 *
Less than Five Years and Noncitizen	0.28 ***	0.28 ***
Five to Nine Years and Citizen	0.46	0.47
Five to Nine Years and Noncitizen	0.76	0.77
Ten or More Years and Citizen	0.87	0.87
Ten or More Years and Noncitizen	0.84	0.84
Sex [Male]		
Female	0.96	0.96
Age (continuous in years)	0.93 ***	0.93 ***
Family Structure [Married Parents]		
Mother Only	1.02	1.02
Cohabitating Adults	0.75 *	0.74 *
Step Family	1.00	1.00
Other Adults in Family	0.85	0.85 *
Country Region [Northeast]		
Midwest	0.29 ***	0.29 ***
South	0.25 ***	0.25 ***
West	0.22 ***	0.22 ***
Residence Local [Large Urban Area]		
Small Urban Area	1.02	1.02
Non-Urban Area	1.09	1.08

TABLE 6.1: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 7	Model 8
Education of Mother [College and Beyond]		
Up to 8th Grade	0.42 ***	0.41 ***
Some High School	0.57 ***	0.56 ***
High School Degree	0.60 ***	0.59 ***
Some College	0.75 *	0.75 *
Unknown	0.45 ***	0.44 ***
Income [$35,000 or more]		
Less than $9,999	0.72 *	0.71 *
$10,000-19,999	0.60 ***	0.59 ***
$20,000-34,999	0.67 ***	0.66 ***
Income Not Reported	0.69 ***	0.69 ***
Insurance [Private]		
Misc. Governemnt	0.47 ***	0.47 ***
Not Insured	0.17 ***	0.16 ***
Health Status [Excellent]		
Good		1.07
Fair/Poor		2.24 ***
*** p<.001 ** p<.01 *p<.05		
N=38132		
-2LL (Intercept Only)	16610.72	16610.72
-2LL (Full Model)	13727.43	13707.45
X^2	2883.29	2903.27
Degrees of Freedom	33	35

TABLE 6.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

		Mexican N=7164	Puerto Rican N=993	Cuban & Other Hsp N=2488
Duration and Citizenship of Mother [US Born]				
	Less than Five Years and Citizen	0.21	1.96	0.07 **
	Less than Five Years and Noncitizen	0.35 ***	0.39	0.36 *
	Five to Nine Years and Citizen	2.09	1.94	0.46
	Five to Nine Years and Noncitizen	0.86		0.73
	Ten or More Years and Citizen	1.10	0.90	1.13
	Ten or More Years and Noncitizen	0.94	0.39	0.86
Sex [Male]				
	Female	0.98	1.49	1.05
Age (continuous in years)		0.89 ***	0.92	0.94 ***
Family Structure [Married Parents]				
	Mother Only	1.55 *	0.84	1.02
	Cohabitating Adults	0.87	0.24 *	4.18 *
	Step Family	1.29	1.51	1.41
	Other Adults in Family	0.85	0.86	0.94
Country Region [Northeast]				
	Midwest	0.71	0.36	0.22 ***
C,D	South	0.39 **	0.14 ***	0.39 **
	West	0.44 *	6.43 *	0.38 ***
Residence Local [Large Urban Area]				
	Small Urban Area	0.90	12.39 *	0.40
	Non-Urban Area	1.29	8.58	0.72
Education of Mother [College and Beyond]				
	Up to 8th Grade	0.47 *	0.29	0.31 *
	Some High School	0.52	5.00	0.34 *
	High School Degree	0.83	1.12	0.37 *
	Some College	0.91	1.45	0.60
	Unknown	0.49	0.91	0.38
Income [$35,000 or more]				
	Less than $9,999	0.71	0.74	0.83
	$10,000-19,999	0.64 *	0.76	0.92
	$20,000-34,999	0.70 *	0.93	0.81
	Income Not Reported	0.63 **	4.43	0.66

TABLE 6.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Mexican N=7164	Puerto Rican N=993	Cuban & Other Hsp N=2488
Insurance [Private]			
Misc. Governemnt	0.36 ***	1.00	0.18 ***
Not Insured	0.18 ***	0.21 **	0.08 ***
Health Status [Excellent]			
Good	1.21 *	2.15	0.83
Fair/Poor	2.07 *	5.55	1.33
*** p<.001 ** p<.01 *p<.05			
N=38132			
-2LL (Intercept Only)	6366.67	405.76	1429.56
-2LL (Full Model)	5328.2	289.09	1136.29
X^2	1038.47	116.67	293.27
Degrees of Freedom	30	30	30

A=Non-Hispanic black significantly different from Non-Hispanic white
B=Mexican American significantly different from Non-Hispanic white
C=Puerto Rican significantly different from Non-Hispanic white
D=Cubans/Other Hisapnics significantly different from Non-Hispanic white

TABLE 6.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Non-Hispanic Whites N=21,148	Non-Hispanic Blacks N=6447
Duration and Citizenship of Mother [US Born]		
Less than Five Years and Citizen	1.89	0.10
Less than Five Years and Noncitizen	0.19 ***	0.22 *
Five to Nine Years and Citizen	0.13 *	
Five to Nine Years and Noncitizen	0.78	0.74
Ten or More Years and Citizen	0.97	0.44 *
Ten or More Years and Noncitizen	1.03	0.96
Sex [Male]		
Female	0.91	1.03
Age (continuous in years)	0.94 ***	0.94 ***
Family Structure [Married Parents]		
Mother Only	1.01	1.14
Cohabitating Adults	0.66 *	0.93
Step Family	0.82	1.76
Other Adults in Family	0.79	1.25
Country Region [Northeast]		
Midwest	0.24 ***	0.24 ***
South	0.24 ***	0.20 ***
West	0.16 ***	0.30 **
Residence Local [Large Urban Area]		
Small Urban Area	1.08	1.06
Non-Urban Area	1.04	1.07
Education of Mother [College and Beyond]		
Up to 8th Grade	0.30 *	0.64
Some High School	0.59 *	0.81
High School Degree	0.57 ***	0.67
Some College	0.70 *	1.00
Unknown	0.43 ***	0.50
Income [$35,000 or more]		
Less than $9,999	0.57 *	0.58
$10,000-19,999	0.53 ***	0.38 ***
$20,000-34,999	0.64 **	0.53 *
Income Not Reported	0.90	0.37 ***

TABLE 6.2: Odds Ratios for the Effects of Demographic and Social Factors on a Usual Source of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Non-Hispanic Whites N=21,148	Non-Hispanic Blacks N=6447
Insurance [Private]		
Misc. Governemnt	0.52 ***	0.74
Not Insured	0.15 ***	0.18 ***
Health Status [Excellent]		
Good	1.01	1.12
Fair/Poor	2.42	2.13
*** p<.001 ** p<.01 *p<.05		
N=38132		
-2LL (Intercept Only)	6641.5	2811.34
-2LL (Full Model)	5740.44	2487.78
X^2	901.06	323.56
Degrees of Freedom	30	30

A=Non-Hispanic black significantly different from Non-Hispanic white
B=Mexican American significantly different from Non-Hispanic white
C=Puerto Rican significantly different from Non-Hispanic white
D=Cubans/Other Hisapnics significantly different from Non-Hispanic white

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 1			Model 2		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	2.90 ***	3.97 ***	2.13 **	3.07 ***	3.63 ***	1.49
Other Hispanic	2.29 ***	6.06 ***	0.84	3.10 ***	5.76 ***	0.76
Non-Hispanic Black	2.07 ***	5.77 ***	1.12	2.26 ***	4.96 ***	0.89
Nativity Status of Mother [U.S. Born]						
Foreign Born						
Duration of Mother [U.S. Born]						
Less than Five Years						
Five to Nine Years						
Ten or More Years						
Citizenship of Mother [US Born]						
Non-citizen						
Sex [Male]						
Female				1.02	1.06	1.04
Age (continuous in years)				0.93	0.94	0.93
Family Structure [Married Parents]						
Mother Only				1.58 ***	1.79 ***	2.46 **
Cohabitating Adults				1.48 ***	1.84 **	1.26
Step Family				1.04	1.53 *	2.33 *
Other Adults in Family				1.41 ***	1.65 ***	1.59 *
Country Region [Northeast]						
Midwest				2.47 ***	1.13	1.38
South				1.20 *	1.03	1.51
West				1.81 ***	1.18	2.44
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA under 250,000)				1.93 ***	1.02	1.35
Non-Urban Area (non-MSA)				1.88 ***	1.29	0.80
Education [College and Beyond]						
Up to 8th Grade						
Some High School						
High School Degree						
Some College						
Unknown						

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 1			Model 2		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Household Income [$35,000 or more]						
Less than $9,999						
$10,000-19,999						
$20,000-34,999						
Income Not Reported						
Insurance [Private]						
Misc. Governemnt						
Not Insured						
Health Status [Excellent]						
Good						
Fair/Poor						

*** p<.001 ** p<.01 *p<.05

N=35470	44104.36	44104.4
-2LL (Intercept Only)	42719.9	41422.8
-2LL (Full Model)	1384.46	2681.6
X^2	9	39.0
Degrees of Freedom		

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 3			Model 4		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	2.29 ***	2.65 ***	1.28	2.38 ***	2.66 ***	1.28
Other Hispanic	2.29 ***	4.15 ***	0.64	2.39 ***	4.13 ***	0.61
Non-Hispanic Black	2.21 ***	4.82 ***	0.88	2.23 ***	4.85 ***	0.88
Nativity Status of Mother [U.S. Born]						
Foreign Born	1.79 ***	1.85 ***	1.37			
Duration of Mother [U.S. Born]						
Less than Five Years				3.24 ***	4.88 ***	6.52 ***
Five to Nine Years				3.16 ***	3.12 ***	3.25 **
Ten or More Years				1.37 ***	1.47 *	0.83
Citizenship of Mother [US Born]						
Non-citizen						
Sex [Male]						
Female	1.02	1.06	1.04	1.02	1.07	1.05
Age (continuous in years)	0.94	0.94	0.93	0.94	0.94	0.93
Family Structure [Married Parents]						
Mother Only	1.64 ***	1.88 ***	2.50 **	1.64 ***	1.90 ***	2.57 **
Cohabitating Adults	1.53 ***	1.92 **	1.28	1.52 ***	1.91 **	1.28
Step Family	1.08	1.60 *	2.27 *	1.08	1.59 *	2.30 *
Other Adults in Family	1.41 ***	1.65 ***	1.59 *	1.42 ***	1.67 ***	1.61 *
Country Region [Northeast]						
Midwest	2.61 ***	1.22	1.41	2.57 ***	1.20	1.40
South	1.26 **	1.10	1.54	1.23 *	1.07	1.51
West	1.86 ***	1.23	2.46	1.87 ***	1.25	2.48
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area	1.98 ***	1.05	1.37	1.99 ***	1.06	1.41
Non-Urban Area	1.95 ***	1.35	0.82	1.96 ***	1.37	0.84
Education [College and Beyond]						
Up to 8th Grade						
Some High School						
High School Degree						
Some College						
Unknown						

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 3			Model 4		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Household Income [$35,000 or more]						
Less than $9,999						
$10,000-19,999						
$20,000-34,999						
Income Not Reported						
Insurance [Private]						
Misc. Governemnt						
Not Insured						
Health Status [Excellent]						
Good						
Fair/Poor						

*** p<.001 ** p<.01 *p<.05

N=35470		
-2LL (Intercept Only)	44095.5	######
-2LL (Full Model)	41231.9	######
X^2	2863.6	3006.6
Degrees of Freedom	42.0	48.0

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 5			Model 6		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	2.17 ***	2.51 ***	1.09	1.50 ***	1.65 *	0.85
Other Hispanic	2.41 ***	4.15 ***	0.61	1.97 ***	3.23 ***	0.54
Non-Hispanic Black	2.22 ***	4.84 ***	0.88	1.80 ***	3.76 ***	0.78
Nativity Status of Mother [U.S. Born]						
Foreign Born						
Duration of Mother [U.S. Born]						
Less than Five Years	1.75 ***	3.45 ***	2.05	1.59 **	2.99 ***	1.96
Five to Nine Years	1.81 ***	2.29 **	1.12	1.65 ***	2.05 **	1.06
Ten or More Years	0.99	1.24	0.42 ***	0.94	1.20	0.39 ***
Citizenship of Mother [US Born]						
Non-citizen	2.06 ***	1.51 *	3.72 ***	1.67 ***	1.24	3.13 ***
Sex [Male]						
Female	1.02	1.06	1.04	1.03	1.06	1.04
Age (continuous in years)						
Family Structure [Married Parents]						
Mother Only	1.65 ***	1.90 ***	2.60 **	1.02	1.08	1.92
Cohabitating Adults	1.50 ***	1.90 **	1.28	1.10	1.30	1.04
Step Family	1.08	1.60 *	2.34 *	1.00	1.48	2.19 *
Other Adults in Family	1.42 ***	1.67 ***	1.60 *	1.20 **	1.32	1.44
Country Region [Northeast]						
Midwest	2.57 ***	1.20	1.41	2.64 ***	1.25	1.38
South	1.23 *	1.07	1.52	1.15	1.03	1.43
West	1.84 ***	1.23	2.45	1.86 ***	1.27	2.37
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area (MSA unc	2.01 ***	1.07	1.43	1.92 ***	0.99	1.38
Non-Urban Area (non-MSA)	1.95 ***	1.36	0.84	1.67 ***	1.10	0.75
Education [College and Beyond]						
Up to 8th Grade				2.82 ***	2.88 ***	2.52 *
Some High School				2.40 ***	1.98 **	1.29
High School Degree				1.69 ***	1.76 **	1.07
Some College				1.41 ***	1.39	1.67
Unknown				2.02 ***	2.46 **	1.56

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 5			Model 6		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Household Income [$35,000 or more]						
Less than $9,999				2.48 ***	3.15 ***	1.69
$10,000-19,999				2.01 ***	2.57 ***	1.78 *
$20,000-34,999				1.57 ***	2.01 ***	1.80
Income Not Reported				0.91	0.90	1.19
Insurance [Private]						
Misc. Governemnt						
Not Insured						
Health Status [Excellent]						
Good						
Fair/Poor						

*** p<.001 ** p<.01 *p<.05

N=35470		
-2LL (Intercept Only)	44104.4	44104.4
-2LL (Full Model)	40982.1	39859.4
X^2	3122.3	4245.0
Degrees of Freedom	51.0	78.0

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 7			Model 8		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Race/ethnicity [Non-Hispanic White]						
Mexican American	1.38 ***	1.41	0.71	1.37 ***	1.40	0.71
Other Hispanic	1.83 ***	2.82 ***	0.47	1.82 ***	2.81 ***	0.47
Non-Hispanic Black	1.65 ***	3.32 ***	0.67	1.64 ***	3.29 ***	0.67
Nativity Status of Mother [U.S. Born]						
Foreign Born						
Duration of Mother [U.S. Born]						
Less than Five Years	1.50 **	2.77 **	1.83	1.51 **	2.81 ***	1.83
Five to Nine Years	1.53 ***	1.85 *	0.93	1.54 ***	1.86	0.93
Ten or More Years	0.95	1.21	0.39 ***	0.95	1.21	0.39 ***
Citizenship of Mother [US Born]						
Non-citizen	1.52 ***	1.08	2.70 ***	1.52 ***	1.08	2.69 ***
Sex [Male]						
Female	1.03	1.07	1.07	1.03	1.07	1.07
Age (continuous in years)						
Family Structure [Married Parents]						
Mother Only	0.95	0.95	1.74	0.94	0.94	1.74
Cohabitating Adults	0.88	0.95	0.71	0.87	0.95	0.71
Step Family	0.91	1.27	1.92	0.91	1.27	1.92
Other Adults in Family	1.05	1.07	1.16	1.05	1.06	1.15
Country Region [Northeast]						
Midwest	2.83 ***	1.39	1.55	2.83 ***	1.39	1.55
South	1.11	0.99	1.31	1.12	0.99	1.31
West	1.89 ***	1.31	2.38	1.90 ***	1.31	2.39
Residence Local [Large Urban Area MSA size of 250,000+]						
Small Urban Area	1.86 ***	0.96	1.29	1.86 ***	0.96	1.29
Non-Urban Area	1.60 ***	1.03	0.68	1.59 ***	1.02	0.68
Education [College and Beyond]						
Up to 8th Grade	2.17 ***	1.88 *	1.53	2.13 ***	1.86 *	1.53
Some High School	1.82 ***	1.25	0.79	1.80 ***	1.24	0.79
High School Degree	1.46 ***	1.31	0.76	1.44 ***	1.29	0.76
Some College	1.28 **	1.12	1.34	1.27 **	1.12	1.34
Unknown	1.61 ***	1.65	0.97	1.60 ***	1.63	0.97

TABLE 7.1: Odds Ratios for the Effects of Demographic and Social Factors on Sources of Health Care Among Race/Ethnic Groups, U.S. Children Aged 0-17, 1999-2001

	Model 7			Model 8		
	Clinic	ER	Other	Clinic	ER	Other
	[Private Doctor's Office]			[Private Doctor's Office]		
Household Income [$35,000 or more]						
Less than $9,999	1.38 ***	1.33	0.72	1.38 **	1.31	0.72
$10,000-19,999	1.20 *	1.18	0.80	1.19 *	1.17	0.80
$20,000-34,999	1.18	1.25	1.08	1.17 *	1.24	1.07
Income Not Reported	0.80 ***	0.70	0.97	0.79 ***	0.70	0.97
Insurance [Private]						
Misc. Governemnt	2.88 ***	5.23 ***	5.22 ***	2.87 ***	5.17 ***	5.23 ***
Not Insured	3.52 ***	7.30 ***	12.23 ***	3.51 ***	7.59 ***	12.22 ***
Health Status [Excellent]						
Good				1.09 *	1.06	1.02
Fair/Poor				1.13	1.60	0.82

*** p<.001 ** p<.01 *p<.05

N=35470		
-2LL (Intercept Only)	44101.4	44104.4
-2LL (Full Model)	38621.5	38608.5
X^2	5484.9	5495.8
Degrees of Freedom	84.0	90.0

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